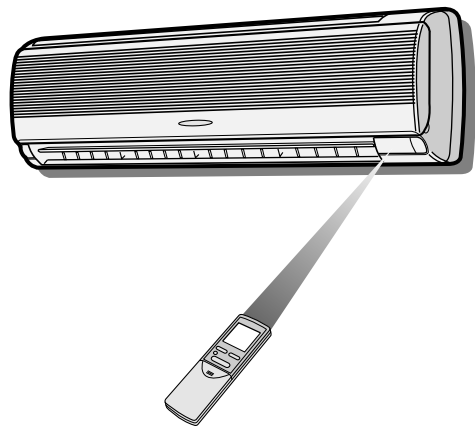


SHARP SERVICE MANUAL

S3928AHA249E/



SPLIT SYSTEM ROOM AIR CONDITIONERS

INDOOR UNIT
MODELS **AH-A189E**
AH-A249E
OUTDOOR UNIT
AU-A189E
AU-A249E

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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SPECIFICATIONS

| ITEMS UNIT | | INDOOR UNIT | OUTDOOR UNIT | INDOOR UNIT | OUTDOOR |
|------------------|----------|-------------|--------------|-------------|----------|
| | | AH-A189E | AU-A189E | AH-A249E | AU-A249E |
| Cooling capacity | kW | 5.1 | | 6.7 | |
| Moisture removal | Liters/h | 2.1 | | 2.6 | |

★ Electrical data

| | | | | | | |
|-----------------------------|--------------------|-------|--|-----|----------------------------------|-----|
| Phase | | – | Single | | | |
| Rated frequency | | Hz | 50 | | | |
| Rated voltage range | | V | 198 to 264 | | | |
| Rated voltage | | V | 220 – 240 | | | |
| Rated current | Cool | A | 9.3 – 9.7 | | 12.9 – 13.6 | |
| Rated input | Cool | kW | 2.01 - 2.15 | | 2.68 – 2.84 | |
| Power factor | Cool | % | 98 – 92 | | 94 – 87 | |
| Compressor | Type | | Hermetically sealed rotary type | | | |
| | Model | | SRC75BV1TT | | 2JS464D3AA02 | |
| | Oil charge | | 850cc (SUNISO 4GSD.I) | | 1130cc (SUNISO 4GID) | |
| Refrigerant system | Evaporator | | Louver fin and Grooved tube type(7mm tube) | | | |
| | Condenser | | Corrugate fin and Grooved tube type | | Louver fin and Grooved tube type | |
| | Control | | Capillary tube | | | |
| | Refrigerant volume | | 1500g | | 1550g | |
| Capillary tube size | Outer dia. | mm | – | 3.2 | – | 3.5 |
| | Inner dia. | mm | – | 1.9 | – | 2.2 |
| | Length | mm | – | 600 | – | 600 |
| | Q'ty | | – | 1 | – | 1 |
| Noise level (at cooling) | High | dB(A) | 44 | 53 | 46 | 56 |
| | Med. | dB(A) | 41 | – | 44 | – |
| | Low | dB(A) | 39 | – | 41 | – |

Fan system

| | | | | | | |
|-----------------------------------|------|----------------------|----------------|---------------|----------------|---------------|
| Drive | | | Direct drive | | | |
| Air flow quantity (at cooling) | High | m ³ /min. | 14.6 | 42 | 16.5 | 48 |
| | Med. | m ³ /min. | 13.2 | – | 14.9 | – |
| | Low | m ³ /min. | 11.2 | – | 12.4 | – |
| Fan | | | Cross flow fan | Propeller fan | Cross flow fan | Propeller fan |

Connections

| | | |
|-----------------------------------|--------------------|------------|
| Refrigerant coupling | Flare type | |
| Refrigerant tube size Gas, Liquid | 1/2", 1/4" | 5/8", 1/4" |
| Refrigerant pipe sets No. | AZ-24T7F; 7m(23ft) | — |
| Drain piping mm | O.D ø 20 | |

Others

| | | | | | | |
|----------------|--------|----|---|-----|--|-----|
| Safety device | | | Compressor: Overload protector(Internal) Thermal protector | | Compressor: Overload protector(Internal) | |
| | | | Fan motors: Thermal protector (Internal) | | | |
| | | | Fuse, Micro computer control | | | |
| | | | Air filters | | | |
| | | | Polypropylene net (Washable) | | | |
| Net dimensions | Width | mm | 1100 | 800 | 1100 | 890 |
| | Height | mm | 330 | 637 | 330 | 637 |
| | Depth | mm | 202 | 297 | 202 | 297 |
| Net weight | | kg | 13 | 48 | 14 | 61 |

Note: The condition of star (★) marked item are 'IEC 378'.

EXTERNAL DIMENSIONS

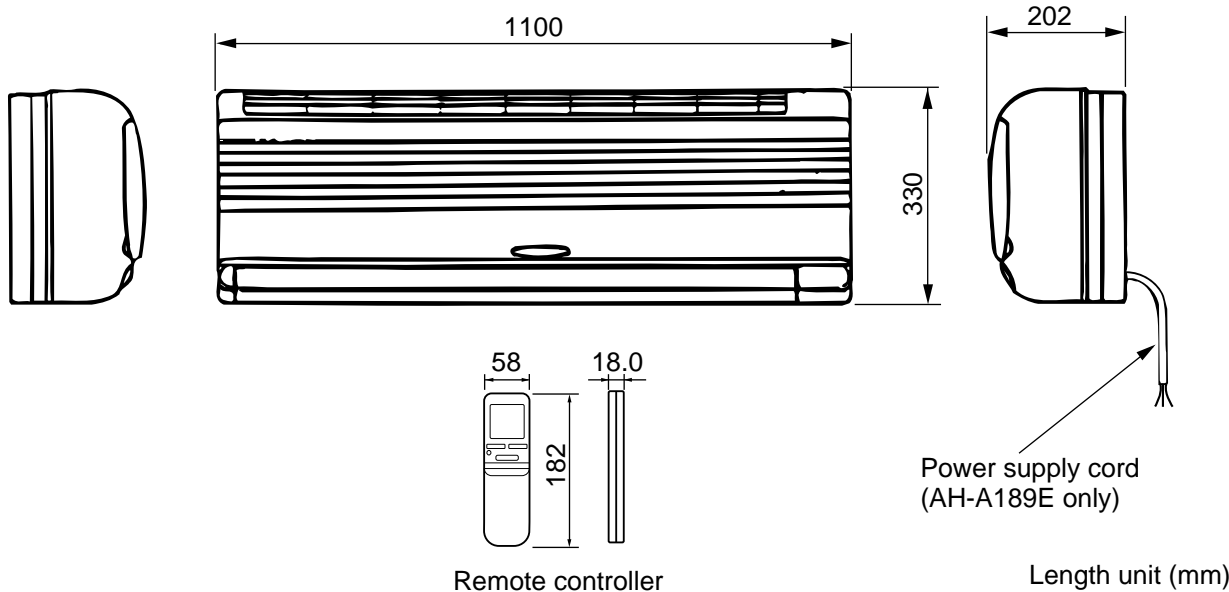


Figure E-1. INDOOR UNIT

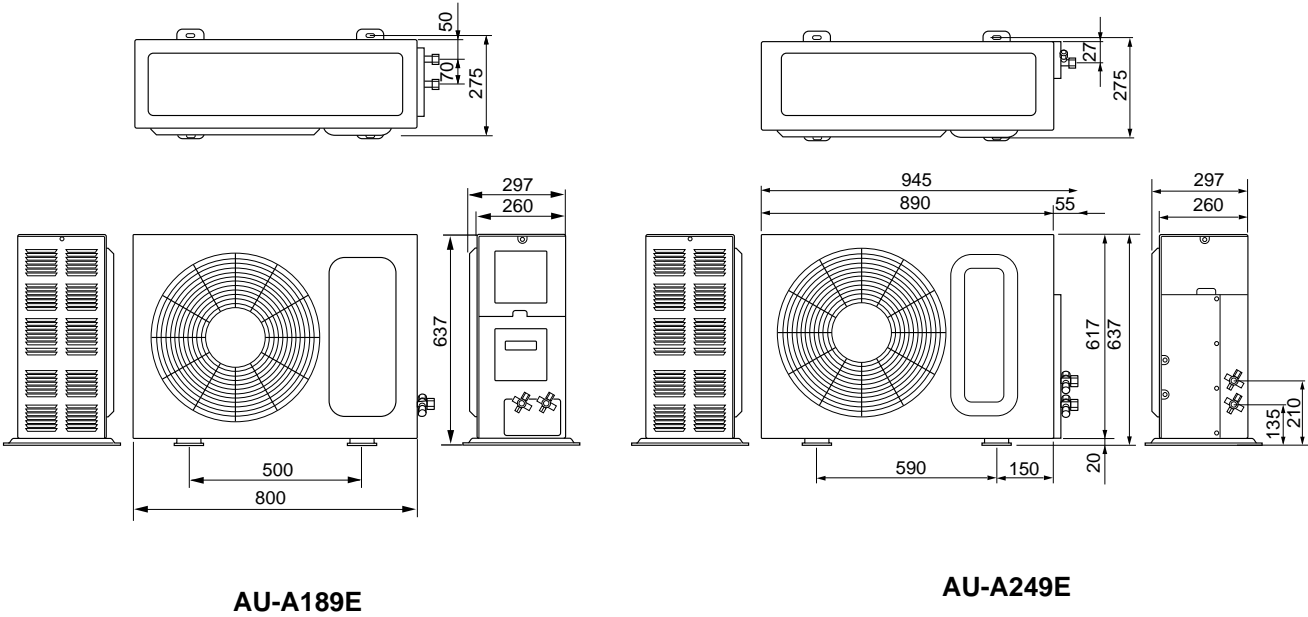


Figure E-2. OUTDOOR UNIT

WIRING DIAGRAMS

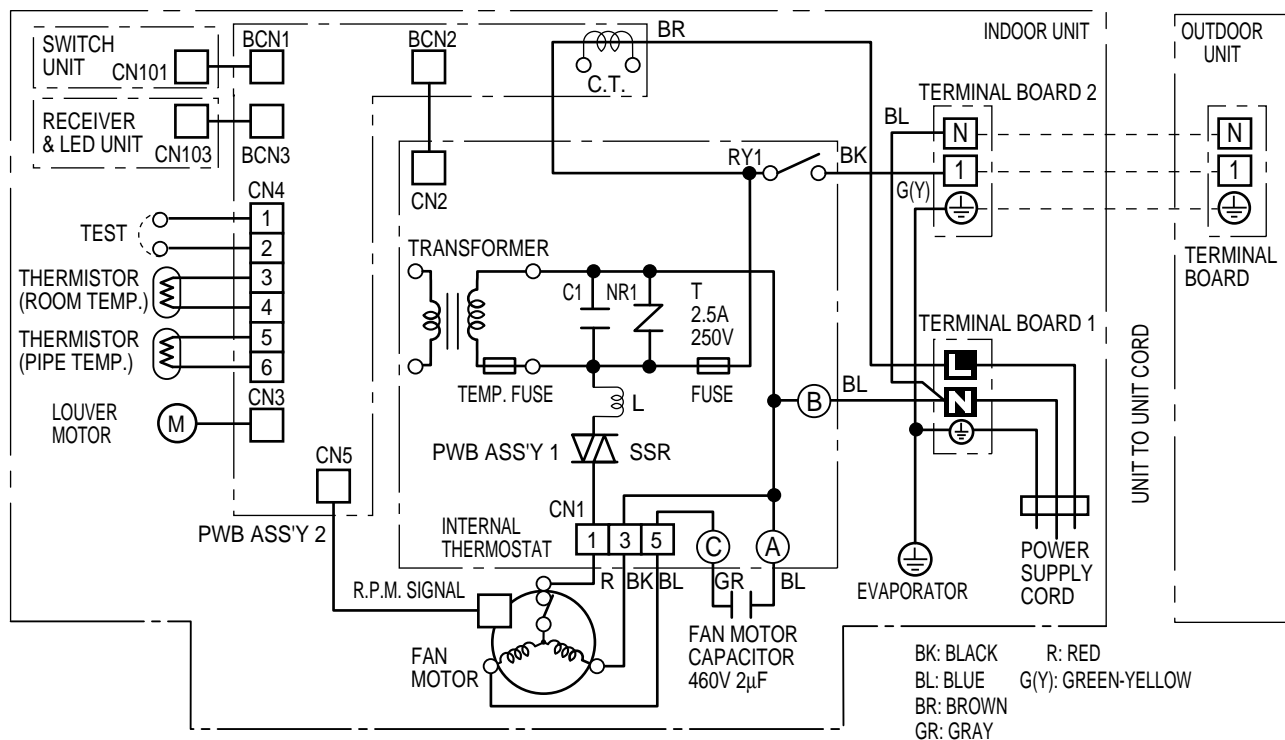


Figure W-1. Wiring Diagram for AH-A189E

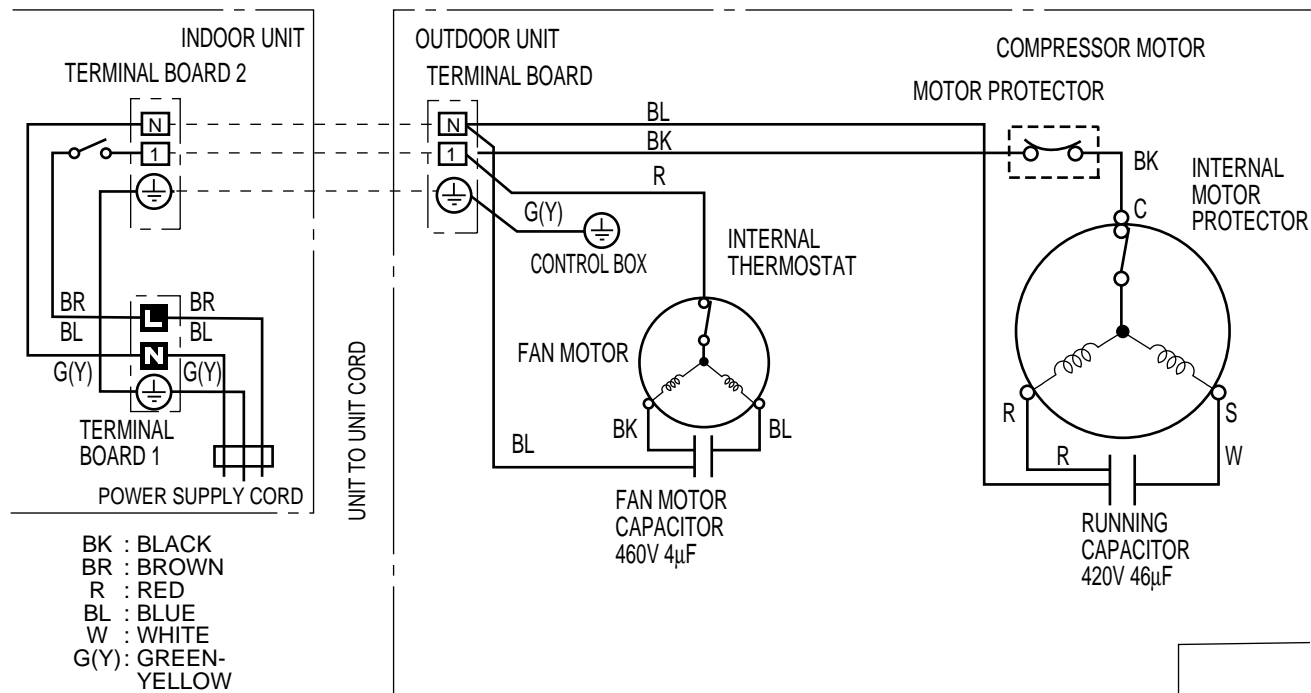


Figure W-2. Wiring Diagram for AU-A189E

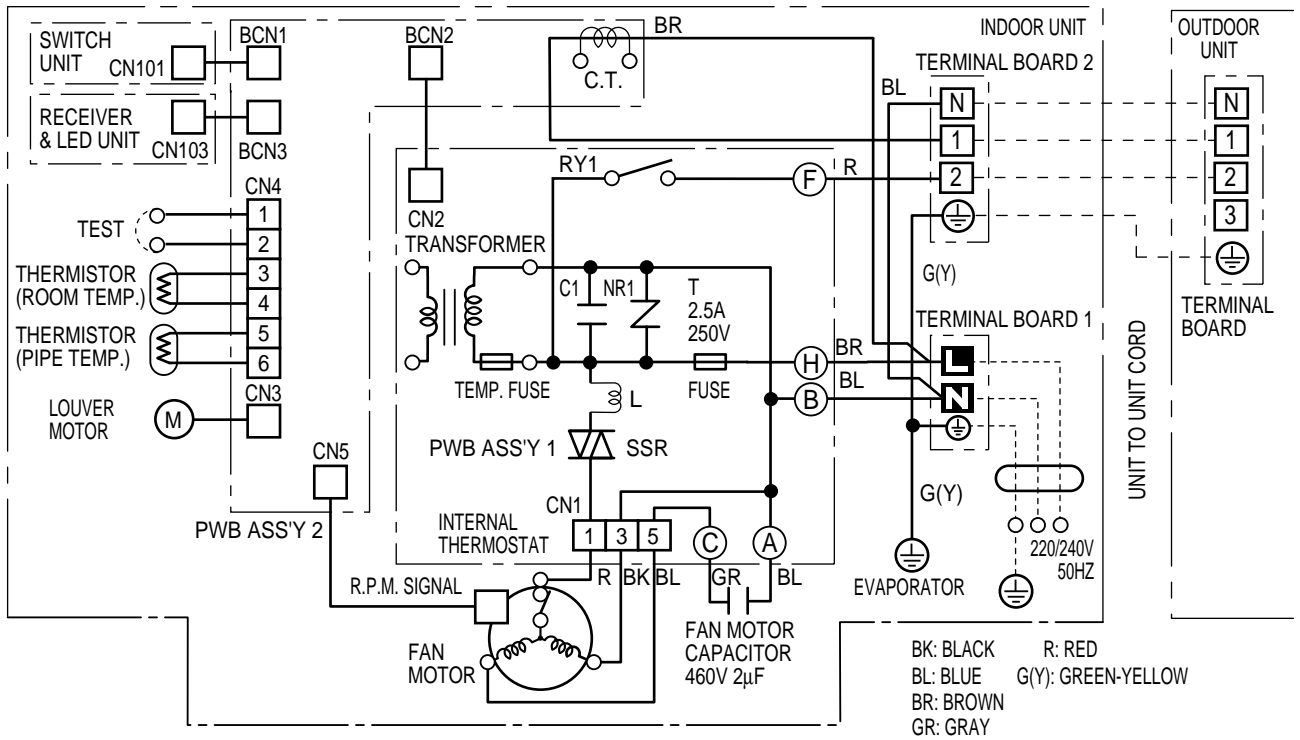


Figure W-3. Wiring Diagram for AH-A249E

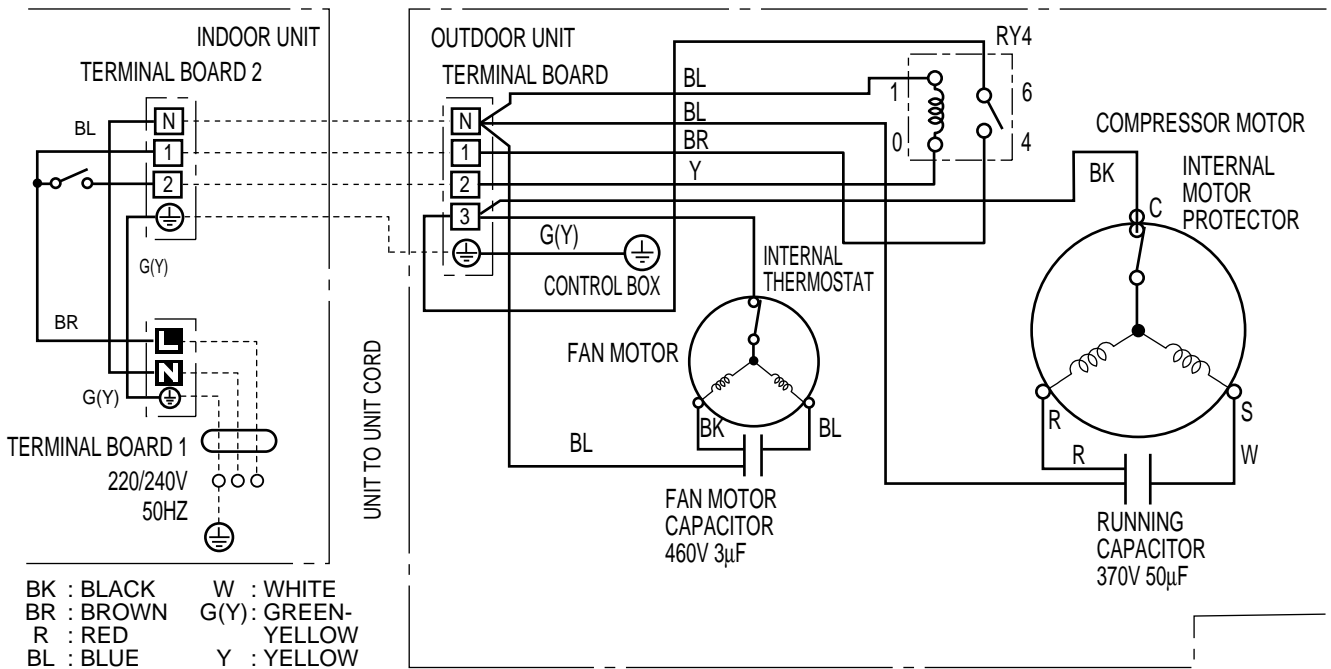


Figure W-4. Wiring Diagram for AU-A249E

ELECTRICAL PARTS

| Part No. | Part Name | Items | Specifications | |
|----------|--|------------------------------|---|--------------------------------|
| | | | AH-A189E | AH-A249E |
| 1 | Terminal Board | Rating | 300V 25A | |
| 2 | Fan motor Capacitor | Rating | 460V 2 μ F | |
| 3 | Relay-1 AH-A189E: RY1 AH-A249E: NONE | Rating | AC250V 20A Coil Volt.; DC12V | — |
| | | Type | JM1AN-TMP-DC12V | — |
| 4 | Relay-2 AH-A189E: NONE AH-A249E: RY1 | Rating | — | AC250V 5A Coil Volt.; DC12V |
| | | Type | — | G5P-1 |
| 5 | Transformer | Rating | Pri 220 - 240VAC Sec. DC 16.8V DC 0.29A | |
| 6 | Fan motor | Rating | 220 - 240VAC 50Hz 41W 4-Pole | |
| | | Type | MLA448 | |
| | | Thermal Protector (Internal) | 17AM034 Cut off 135 \pm 10°C | |
| 7 | Power Supply Cord | Rating | 16A 300V 1.5mm ² | — |
| | | Type | SB-H05VV-F3 x 1.5mm ² | — |
| 8 | Louver Motor | Rating | DC12V 250 Ω | |
| | | Type | MP35EA | |

| Part No. | Part Name | Items | Specifications | |
|----------|------------------------|------------------------------|------------------------------|--|
| | | | AU-A189E | AU-A249E |
| 1 | Terminal Board | Rating | 300V 25A | |
| 2 | Fan motor Capacitor | Rating | 460V 4 μ F | 460V 4 μ F |
| 3 | Running Capacitor | Rating | 420V 46 μ F | 370V 50 μ F |
| 4 | Compressor | Rating | AC220 - 240V 50Hz 1800W | AC220 - 240V 50Hz 2200W |
| | | Type | SRC77BV1TT | 2JS464D3AA02 |
| 5 | Fan motor | Rating | 220 - 240VAC 50Hz 60W 6-Pole | 220 - 240VAC 50Hz 106W 6-Pole |
| | | Type | MLA797 | MLA590 |
| | | Thermal protector (Internal) | Cut off 135°C \pm 5°C | |
| 6 | Relay 4 | Rating | — | AC240VAC 25A Coil Volt ; 200 - 240V |
| | | Type | — | G7L-1A-TUB |

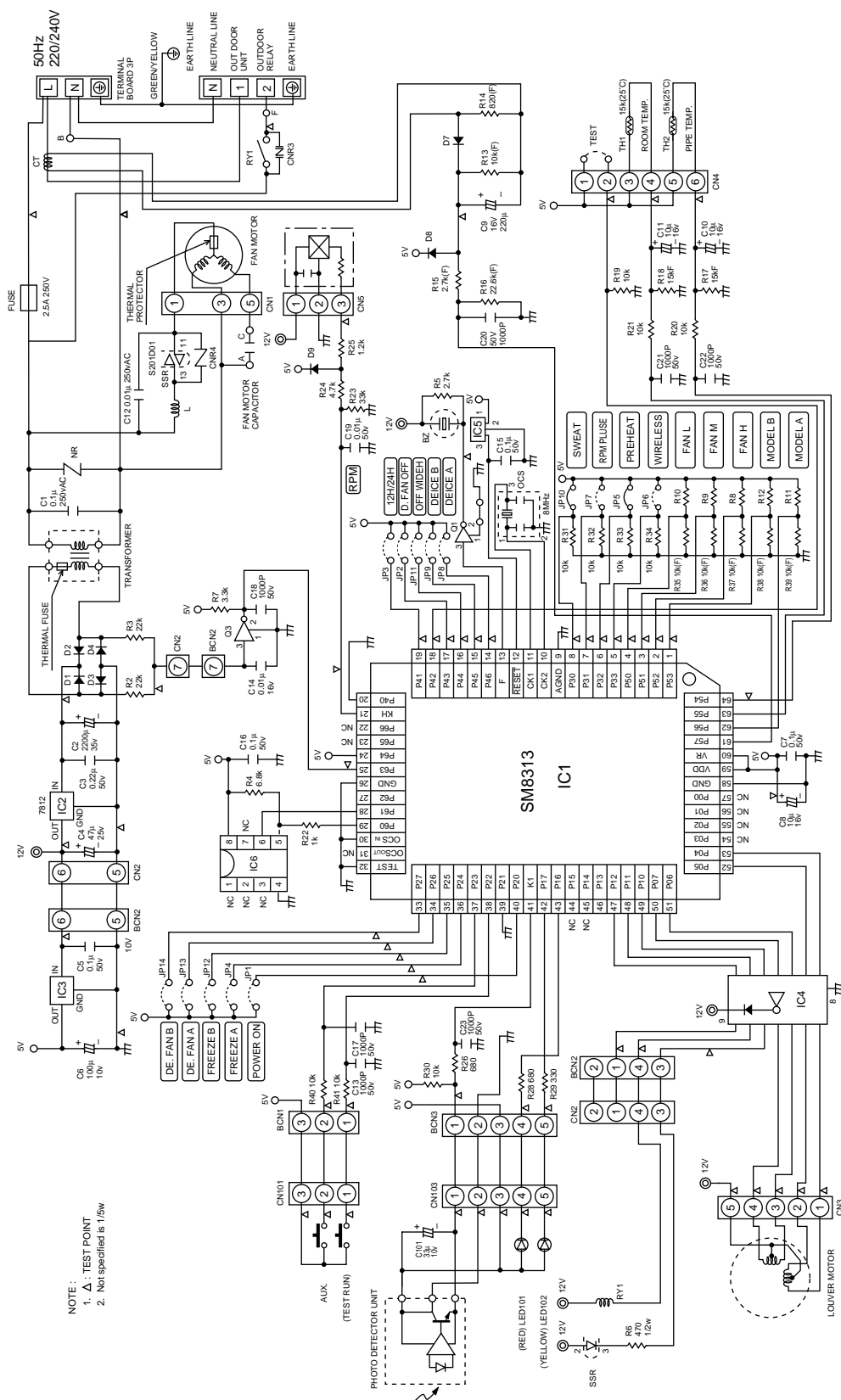


Figure L-2. Electronic Control Circuit Diagram for AH-A249E

| | FUNCTION | 12H / 24H | D.FAN OFF OFFON | OFF WIDE H 35mm. | DEICE B | DEICE A | SWEAT ON/OFF | RPM PLUSE 1/3 | PREHEAT OFF/ON | WIREESS CHANG/NORMAL | FAN L | FAN M | FAN H | MODEL B | MODEL A | DE.FAN B | DE.FAN A | FREEZE B | FREEZE A | POWERON ON/OFF |
|---------|---------------------|-----------|--------------------|---------------------|-------------|-------------|--------------|---------------|----------------|----------------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|----------------|
| AH-A24E | C1 PIN NO. (P41) | 19 | 17 (P43) | 16 (P44) | 15 (P45) | 14 (P46) | 8 (P30) | 7 (P31) | 6 (P32) | 5 (P33) | 4 (P50) | 3 (P51) | 2 (P52) | 1 (P53) | 64 (P54) | 33 (P27) | 34 (P26) | 35 (P25) | 36 (P24) | 40 (P20) |
| | SYMBOL | JP3 | JP2 | JP11 | JP9 | JP8 | JP10 | JP7 | JP5 | JP6 | R10 | R9 | R8 | R12 | R11 | JP14 | JP13 | JP12 | JP4 | JP1 |
| AH-A24E | X NONE | X NONE | X NONE | X NONE | X NONE | X NONE | O USE | X NONE | O USE | X NONE | 1k | 1.8k | X NONE | 2.4k(F) | 3.6k(F) | X NONE | X NONE | X NONE | O USE | X NONE |

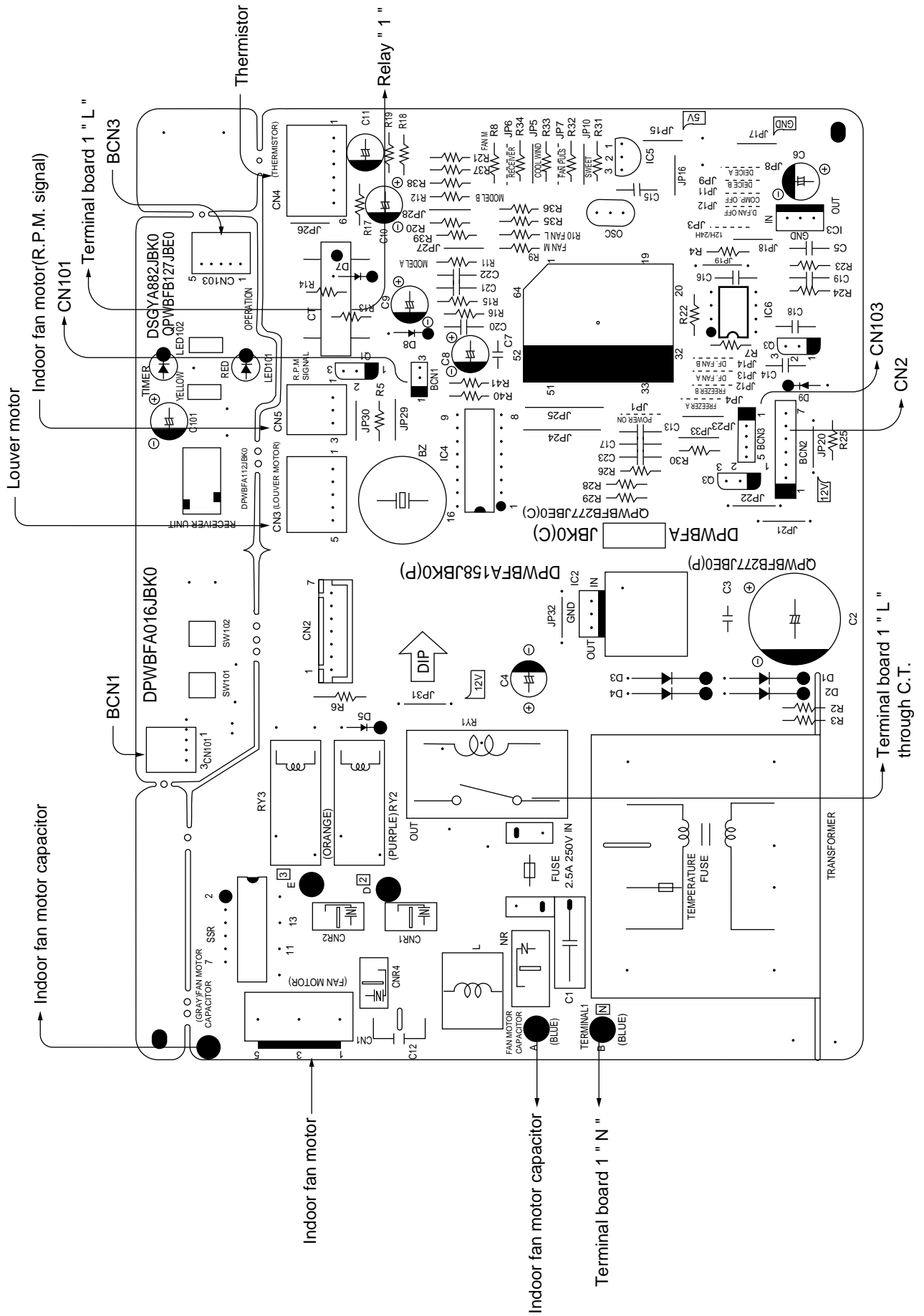


Figure L-3. Printed Wiring Board for AH-A189E

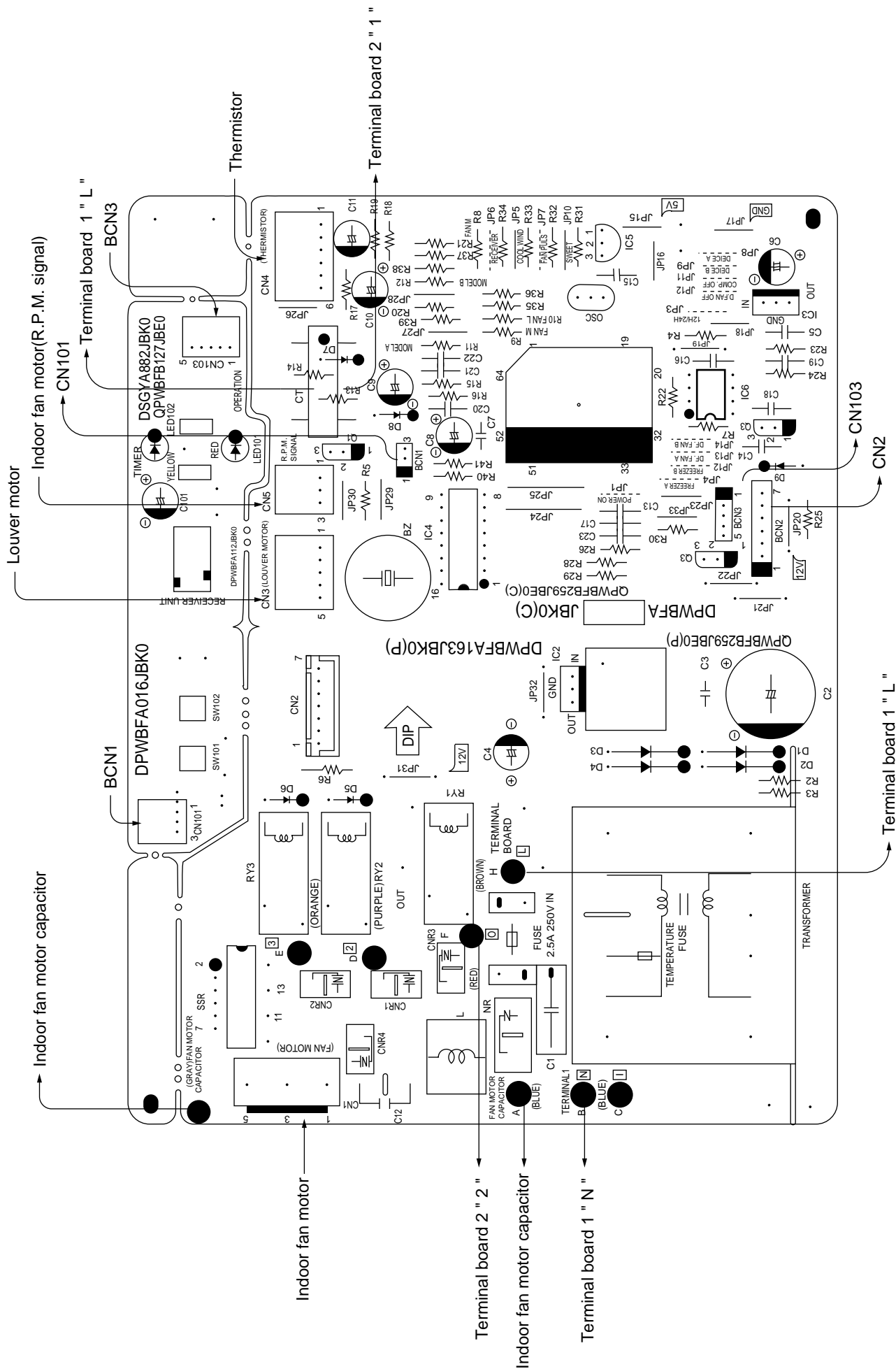


Figure L-4. Printed Wiring Board for AH-A249E

Microcomputer (IC1)

IC1 is a CMOS, one chip, 8-bit microcomputer.
Microcomputer port allocation is as follows.

| Pin No. | Terminal Name | Input Output | Function |
|---------|---------------|--------------|-----------------|
| 1 | P53 | IN | MODEL B |
| 2 | P52 | IN | FAN H |
| 3 | P51 | IN | FAN M |
| 4 | P50 | IN | FAN L |
| 5 | P33 | IN | WIRELESS |
| 6 | P32 | IN | PREHEAT |
| 7 | P31 | IN | PRM PLUSE |
| 8 | P30 | IN | SWEAT |
| 9 | AGND | IN | 0V |
| 10 | CK2 | IN | OSILLATION |
| 11 | CK1 | IN | OSILLATION |
| 12 | RESET | IN | RESET |
| 13 | F | OUT | BUZZER |
| 14 | R46 | IN | DEICE A |
| 15 | R45 | IN | DEICE B |
| 16 | R44 | IN | COMP. OFF WIDTH |
| 17 | R43 | IN | DEHUM. FAN OFF |
| 18 | R42 | IN | TEST 1 |
| 19 | R41 | IN | – |
| 20 | R40 | IN | – |
| 21 | KH | IN | PRM SIGNAL |
| 22 | P66 | IN | – |
| 23 | P65 | IN | – |
| 24 | P64 | IN | – |
| 25 | P63 | IN | AC CLOCK |
| 26 | GND | IN | 0V |
| 27 | P62 | IN | – |
| 28 | P61 | OUT | EEPROM CLOCK |
| 29 | P60 | IN | EEPROM DATA |
| 30 | OSC | IN | – |
| 31 | OSC | OUT | – |
| 32 | TEST | IN | – |

| Pin No. | Terminal Name | Input Output | Function |
|---------|---------------|--------------|-----------------|
| 33 | P27 | IN | MODEL 4 |
| 34 | P26 | IN | MODEL 3 |
| 35 | P25 | IN | MODEL 2 |
| 36 | P24 | IN | MODEL 1 |
| 37 | P23 | IN | SWITCH AUX. |
| 38 | P22 | IN | SWITCH TEST RUN |
| 39 | P21 | IN | – |
| 40 | P20 | IN | POWER ON |
| 41 | KI | IN | WIRELESS SIGNAL |
| 42 | P17 | OUT | LED OPERATION |
| 43 | P16 | OUT | LED TIMER |
| 44 | P15 | OUT | – |
| 45 | P14 | OUT | – |
| 46 | P13 | OUT | (VALVE COIL) |
| 47 | P12 | OUT | (OUTDOOR FAN) |
| 48 | P11 | OUT | RY1 |
| 49 | P10 | OUT | SSR |
| 50 | P07 | OUT | LOUVER MOTOR |
| 51 | P06 | OUT | LOUVER MOTOR |
| 52 | P05 | OUT | LOUVER MOTOR |
| 53 | P04 | OUT | LOUVER MOTOR |
| 54 | P03 | OUT | – |
| 55 | P02 | OUT | – |
| 56 | P01 | OUT | – |
| 57 | P00 | OUT | – |
| 58 | GND | IN | 0V |
| 59 | VDD | IN | 5V |
| 60 | VR | IN | 5V |
| 61 | P57 | IN | – |
| 62 | P56 | IN | TH1 |
| 63 | P55 | IN | TH2 |
| 64 | P54 | IN | MODEL A |

FUNCTIONS

1. Temperature control characteristic

1-1 COOL operation

In the "COOL" mode, the thermostat circuit is controlled by four thermostat lines (C1 thru C4).

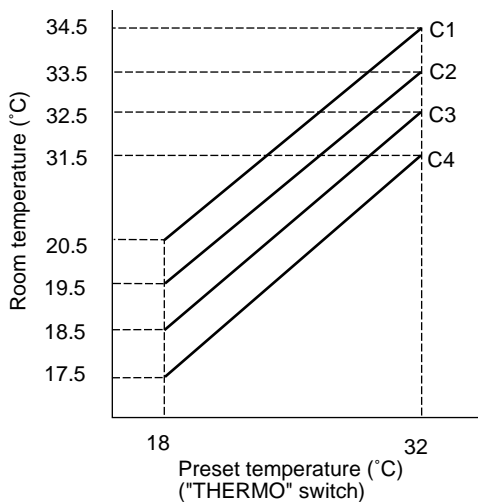


Figure H-1

2. Operation modes

2-1 COOL operation

The compressor turns on or off, at the thermostat lines C3 and C4. The outdoor fan motor is also controlled with the compressor.

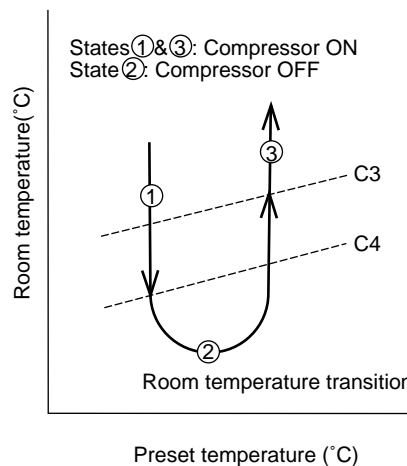


Figure H-3

1-2 DRY operation

In the "DRY" mode, the thermostat circuit is controlled by three thermostat lines (D1 thru D3).

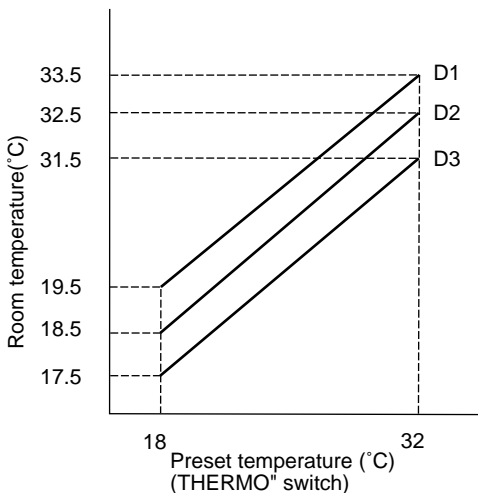


Figure H-2

2-2 DRY operation

On the switch on, the compressor always starts to operate for 2 minutes with fan speed "D" (slower than "UL").

The microcomputer reads the room temperature 2 minutes after this first compressor operation. This room temperature is set as the preset temperature automatically.

The preset temperature ranges from 18°C to 32°C. When the room temperature is below 18°C, the preset temperature is set to 18°C, and when the room temperature is over 32°C, the preset temperature is set to 32°C.

Dry operation is divided into three zones (Cooling zone, Dehumidifying zone and Circulating zone) by thermostat lines (D1 to D3), and the compressor and the fan motor are controlled in each zone as shown in Table H-1.

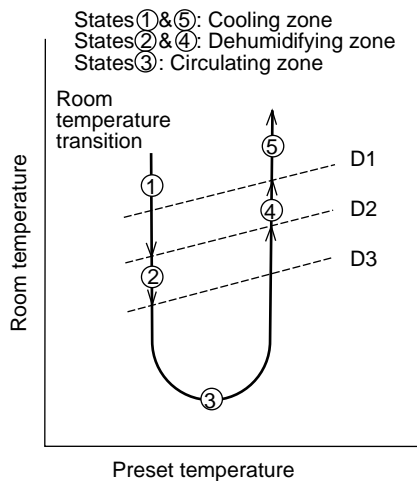


Figure H-4

Table H-1

| | Compressor | Fan speed |
|--------------------|------------|------------|
| Cooling zone | ON | "UL" |
| Dehumidifying zone | ON | "D" |
| Circulating zone | OFF | "D" or OFF |

2-3 Fan only operation

The indoor fan motor always turns on.

3. Fan speed

Fan speeds are given by the indoor fan motor, "M", "L" and "UL", which are available in the following operation mode.

Table H-2

| FAN Switch | COOL | FAN ONLY |
|------------|------|----------|
| HIGH | M | M |
| LOW | L | L |
| SOFT | UL | UL |

4. Current control

This system, in order to prevent overcurrent during cool or dry operation, controls the compressor by detecting total current.

When the current exceeds P1, the compressor is automatically stopped.

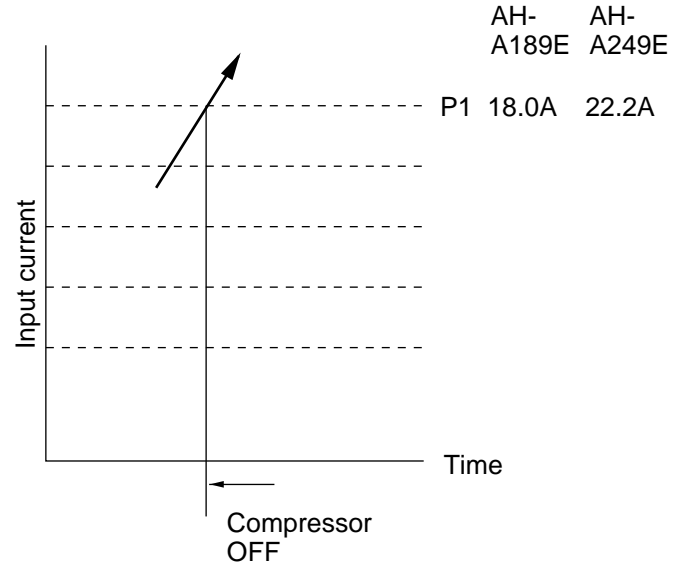


Figure H-5

5. Freeze preventive

When the indoor pipe temperature falls below -1°C during cool operation or dry operation, the compressor is turned off.

6. Test run

If the "TEST RUN" button in the unit is pushed during suspension of operation, cool test operation starts. At this time, the fan speed is set to "AUTO".

If this button is pushed during operation, the test operation starts in current operation mode. The operation LED (red) flickers during test run.

In cool mode continuous compressor on operation is performed. In dry mode the operation is in dehumidifying zone. In fan only mode the indoor fan motor runs continuously.

7. Timer

7-1 24-HOUR PROGRAMMABLE ON/OFF TIMER

ON-TIMER or OFF-TIMER can be independently programmed.

When the unit operates during one hour after the OFF-time is set, thermostat setting is automatically shifted (+1°C in cool operation and dry operation, but, 16°C set temperature at the lowest).

When the ON-timer is set in cool operation, operation starts before 0 to 30 minutes (depends on the room temperature) so that preset temperature is obtained at set time.

7-2 ONE-HOUR TIMER

When ONE-HOUR TIMER is set, the unit turns off automatically after one hour. The ONE-HOUR TIMER operation has priority over other time operation, such as the TIMER ON and TIMER OFF. If the ONE-HOUR TIMER button is pressed again during operation, the unit will operate additionally for another one hour.

8. Automatic air conditioning

When automatic air conditioning is selected, the operation mode and preset temperature are set automatically according to the room temperature on starting operation.

The check in automatic mode should be done as follows.

- (1) Push " TEST RUN " button and confirm operation LED(red) flickering.
- (2) Cut off power.
- (3) Supply power and operate in automatic mode.

Table H-3

| Room temperature at operation start | Operation Mode | Preset Temperature |
|-------------------------------------|----------------|-------------------------------------|
| Above 28°C | COOL | 26°C |
| 26°C ~ 28°C | | 25°C |
| 24°C ~ 26°C | | 24°C |
| Below 24°C | DRY | Room temperature at operation start |

9. Automatic fan speed

When the automatic fan speed is selected in cool operation, the fan speed is automatically changed according to the thermostat lines C1 to C3.

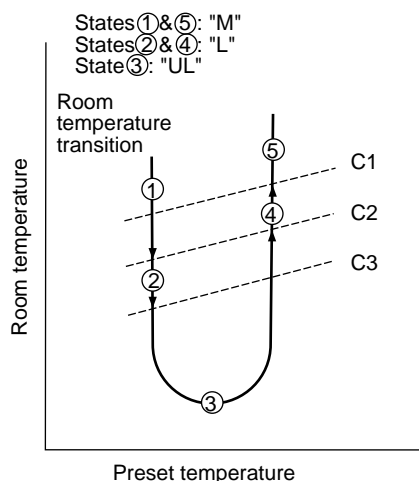


Figure H-6

10.Outputs in each operation mode

Table H-4

| Mode | | Compressor | Outdoor Fan Motor | Indoor Fan Motor |
|----------|---------------|------------|-------------------|------------------|
| COOL | Cooling | ON | ON | ON |
| | Circulating | OFF | OFF | ON |
| DRY | Cooling | ON | ON | L/UL |
| | Dehumidifying | ON | ON | UL/D |
| | Circulating | OFF | OFF | D/OFF |
| FAN ONLY | | OFF | OFF | ON |

11.Power on start

If the connecting wire "POWER ON" (JP1) is cut on the PWB ass'y, when the power is supplied by turning on a circuit breaker, the air conditioner automatically starts of operation in "AUTO".

(Refer to Figure L-2. Printed Wiring Board.)

12.AUTO RESTART

Power failure occurs during operation, the unit will restart in the same operation mode as before after power recovery.

13.Test mode

13-1 TEST 1 (For control circuit operation checking)

Make terminals 1 and 2 of connector CN4 short-circuited and supply the power.

Hereby the timer's period become shortened.

In this test mode, the control times are shortend as follows.

| | |
|--|-----------------|
| The operation LED flicker's period in Test run | } not shortened |
| The protector timer | |
| The defrost timer | |

Other controls; 1/60 (ex.; 3 min. to 3 sec.)

13-2 TEST 2 (For output of each operation checking)

Keep pushing both the buttons, "AUX." and "TEST RUN", and supply the power, the system will go to the test 2 mode.

In this mode, the output of operation is switched by pushing the "TEST RUN" button in the unit or the "ON/OFF" button in the remote controller.

Use the "AUX." button to back to step 1.

Normal outputs are shown in Table H-5 and H-6.

Table H-5 [AH-A189E]

| Step | Output for outdoor unit | Lamps | | Indoor Fan motor | Louver |
|------------------|-------------------------|-----------|--------|------------------|--------|
| | | RED | YELLOW | | |
| 1 | OFF | ※1 | ※2 | OFF | OPEN |
| 2 | ON | Flikering | ON | D | OFF |
| 3 | OFF | ON | OFF | M | OFF |
| 4 | OFF | ON | ON | L | CLOSE |
| 5 | OFF | ON | OFF | D | OFF |
| 6 | OFF | OFF | ※3 | UL | OFF |
| 7 | OFF | ON | OFF ※4 | OFF | OFF |
| 8 | OFF | OFF | OFF | M | OFF |
| 9 | OFF | ON | ON | L | OFF |
| 10 | OFF | OFF | ON | OFF | OFF |
| 11 | OFF | ON | OFF | OFF | OFF |
| 12 | OFF | OFF | ON | OFF | OFF |
| 13 | OFF | ON | OFF | OFF | OFF |
| 14 | OFF | ON | ON | OFF | OFF |
| 15 | OFF | OFF | OFF | OFF | OFF |
| 16 | OFF | OFF | OFF | OFF | OFF |
| 17 | OFF | OFF | ON | OFF | OFF |
| 18 | OFF | ON | OFF | OFF | OFF |
| 19 | OFF | OFF | ON | OFF | OFF |
| 20 | OFF | ON | OFF | OFF | OFF |
| 21 | OFF | OFF | OFF | OFF | OFF |
| 22 | OFF | OFF | OFF | OFF | OFF |
| 23 | OFF | OFF | OFF | OFF | OFF |
| (Back to step 1) | | | | | |

※1 : $7^{\circ}\text{C} \leq \text{Room temp.} < 42^{\circ}\text{C}$ ON
 $7^{\circ}\text{C} > (\text{Room temp.}) \text{ or } (\text{Room temp.}) \geq 42^{\circ}\text{C}$ OFF

※2 : $-2^{\circ}\text{C} \leq \text{Pipe temp.} < 42^{\circ}\text{C}$ ON
 $-2^{\circ}\text{C} > \text{Pipe temp. or } (\text{Pipe temp.}) \geq 42^{\circ}\text{C}$ OFF

※3 : $0.1\text{V} \leq (\text{P57 INPUT VOLTAGE}) \leq 0.45\text{V}$ ON
 $(0.1\text{V} > \text{P57 INPUT VOLTAGE}) \text{ or } (\text{P57 INPUT VOLTAGE}) > 0.45\text{V}$ OFF

※4 : When Power on start is effective, Timer LED(yellow) is ON.

Table H-6 [AH-A249E]

| Step | Output for outdoor unit | Lamps | | Indoor Fan motor | Louver |
|------------------|-------------------------|-----------|--------|------------------|--------|
| | | RED | YELLOW | | |
| 1 | OFF | ※1 | ※2 | OFF | OPEN |
| 2 | ON | Flikering | ON | D | OFF |
| 3 | OFF | ON | OFF | M | OFF |
| 4 | OFF | ON | ON | L | CLOSE |
| 5 | OFF | ON | OFF | D | OFF |
| 6 | OFF | OFF | ※3 | UL | OFF |
| 7 | OFF | ON | OFF ※4 | OFF | OFF |
| 8 | OFF | OFF | OFF | M | OFF |
| 9 | OFF | ON | ON | L | OFF |
| 10 | OFF | OFF | ON | OFF | OFF |
| 11 | OFF | ON | OFF | OFF | OFF |
| 12 | OFF | ON | ON | OFF | OFF |
| 13 | OFF | ON | OFF | OFF | OFF |
| 14 | OFF | ON | ON | OFF | OFF |
| 15 | OFF | OFF | OFF | OFF | OFF |
| 16 | OFF | ON | OFF | OFF | OFF |
| 17 | OFF | ON | ON | OFF | OFF |
| 18 | OFF | ON | OFF | OFF | OFF |
| 19 | OFF | ON | ON | OFF | OFF |
| 20 | OFF | OFF | ON | OFF | OFF |
| 21 | OFF | OFF | OFF | OFF | OFF |
| 22 | OFF | OFF | OFF | OFF | OFF |
| 23 | OFF | OFF | OFF | OFF | OFF |
| (Back to step 1) | | | | | |

※1 : $7^{\circ}\text{C} \leq \text{Room temp.} < 42^{\circ}\text{C}$ ON
 $7^{\circ}\text{C} > (\text{Room temp.}) \text{ or } (\text{Room temp.}) \geq 42^{\circ}\text{C}$ OFF

※2 : $-2^{\circ}\text{C} \leq \text{Pipe temp.} < 42^{\circ}\text{C}$ ON
 $-2^{\circ}\text{C} > \text{Pipe temp. or } (\text{Pipe temp.}) \geq 42^{\circ}\text{C}$ OFF

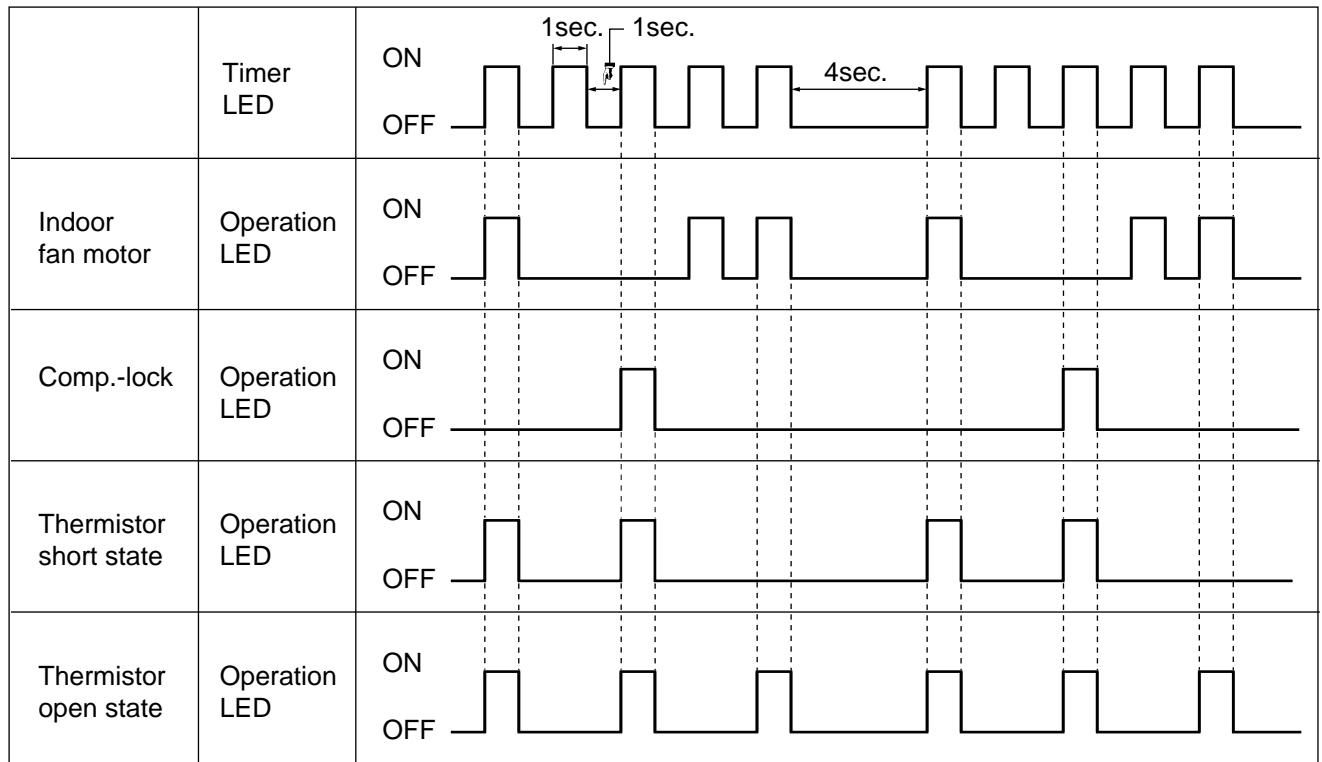
※3 : $0.1\text{V} \leq (\text{P57 INPUT VOLTAGE}) \leq 0.45\text{V}$ ON
 $(0.1\text{V} > \text{P57 INPUT VOLTAGE}) \text{ or } (\text{P57 INPUT VOLTAGE}) > 0.45\text{V}$ OFF

※4 : When Power on start is effective, Timer LED(yellow) is ON.

19. Diagnosis procedure

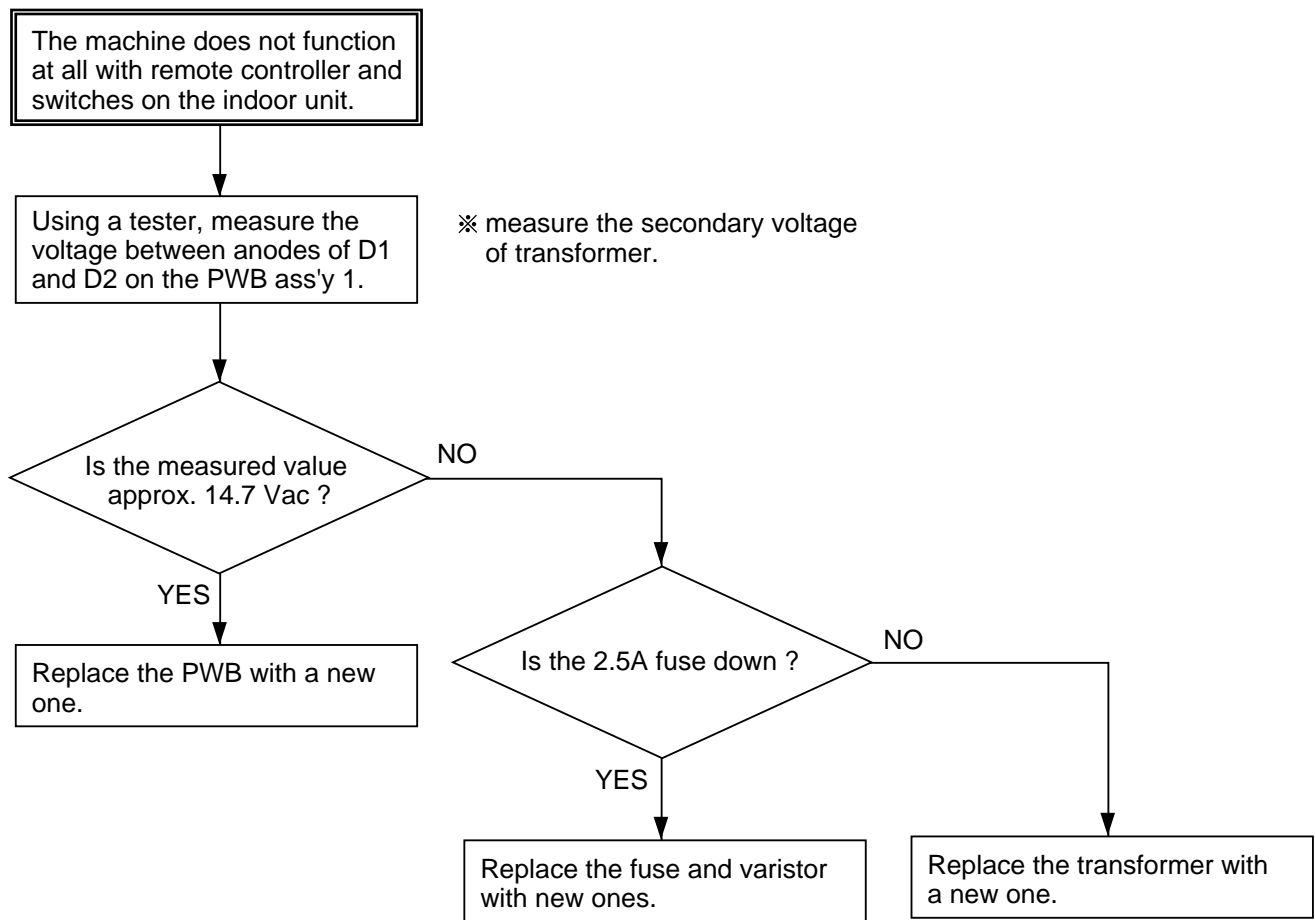
When indoor fan motor is out of order or compressor lock occurs, the compressor, indoor fan motor, outdoor fan motor, and louver are all stopped and the operation LED(red) turns off and the timer LED(yellow) flickers.

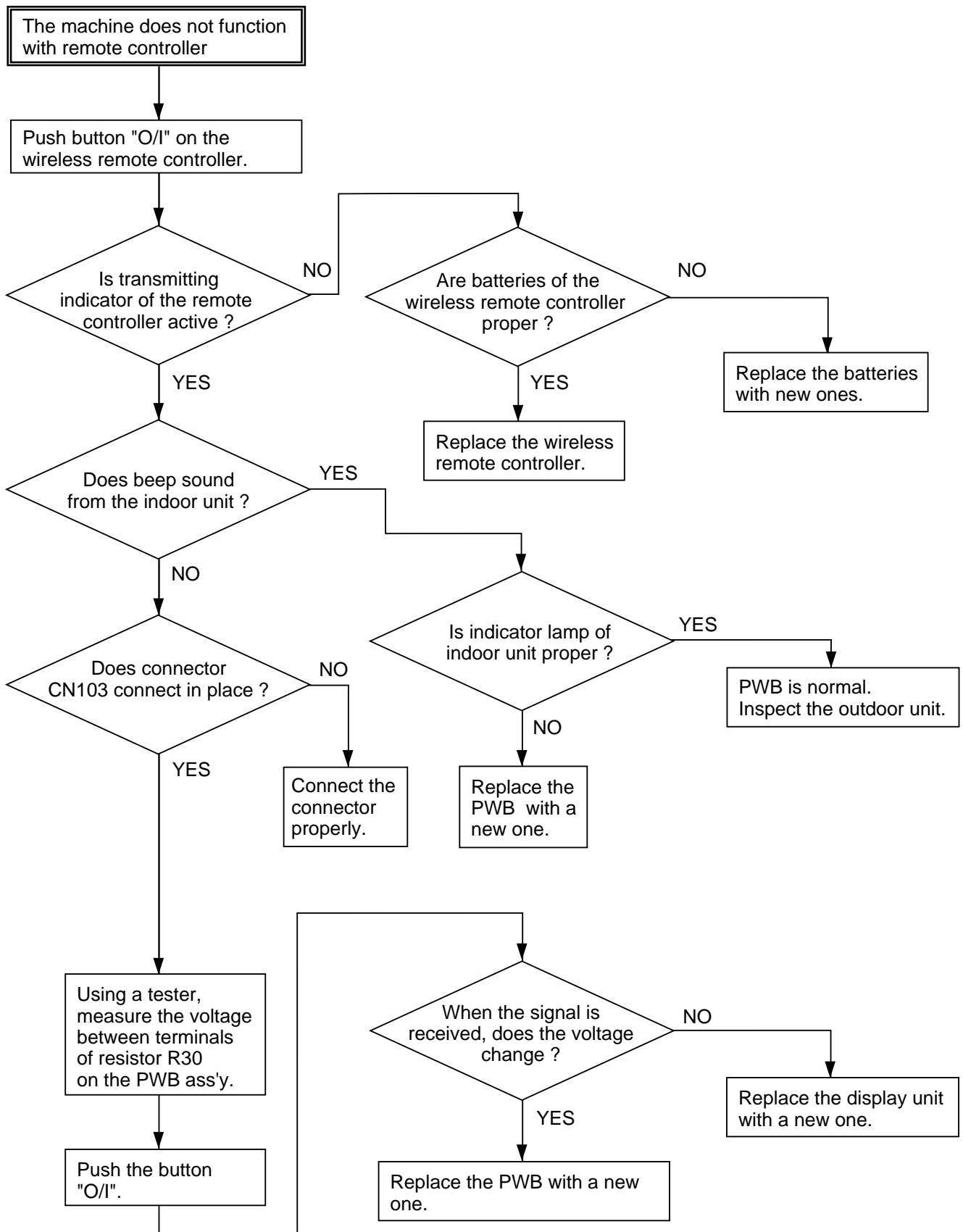
When the following troubles occur, the operation LED turns on or off synchronously with the timing of the timer LED by pushing continuously for more than three seconds both "TEST" button and "AUX." button during suspension.



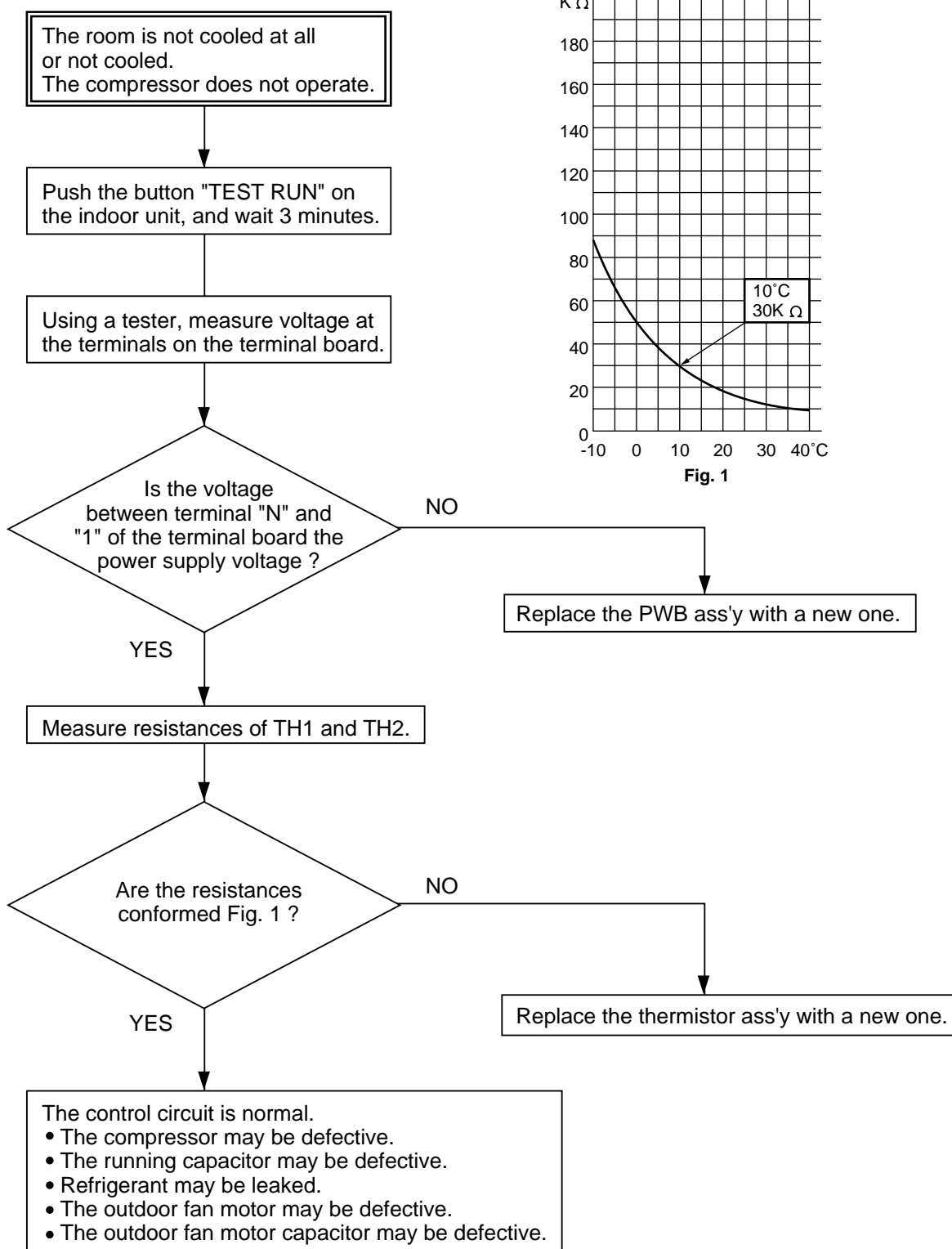
Timing chart of Timer LED and Operation LED of DIAGNOSIS PROCEDURE.

TROUBLESHOOTING GUIDE OF CONTROL CIRCUIT





For AH-A189E/AU-A189E



CHARACTERISTIC OF TH1 & TH2

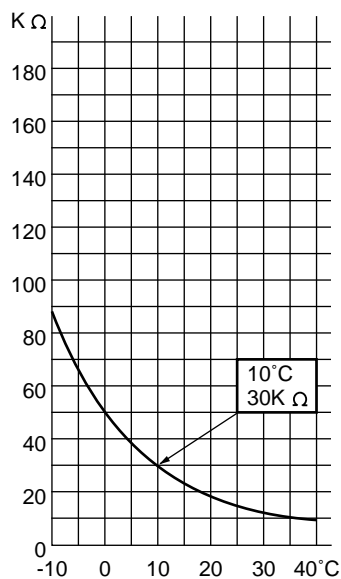
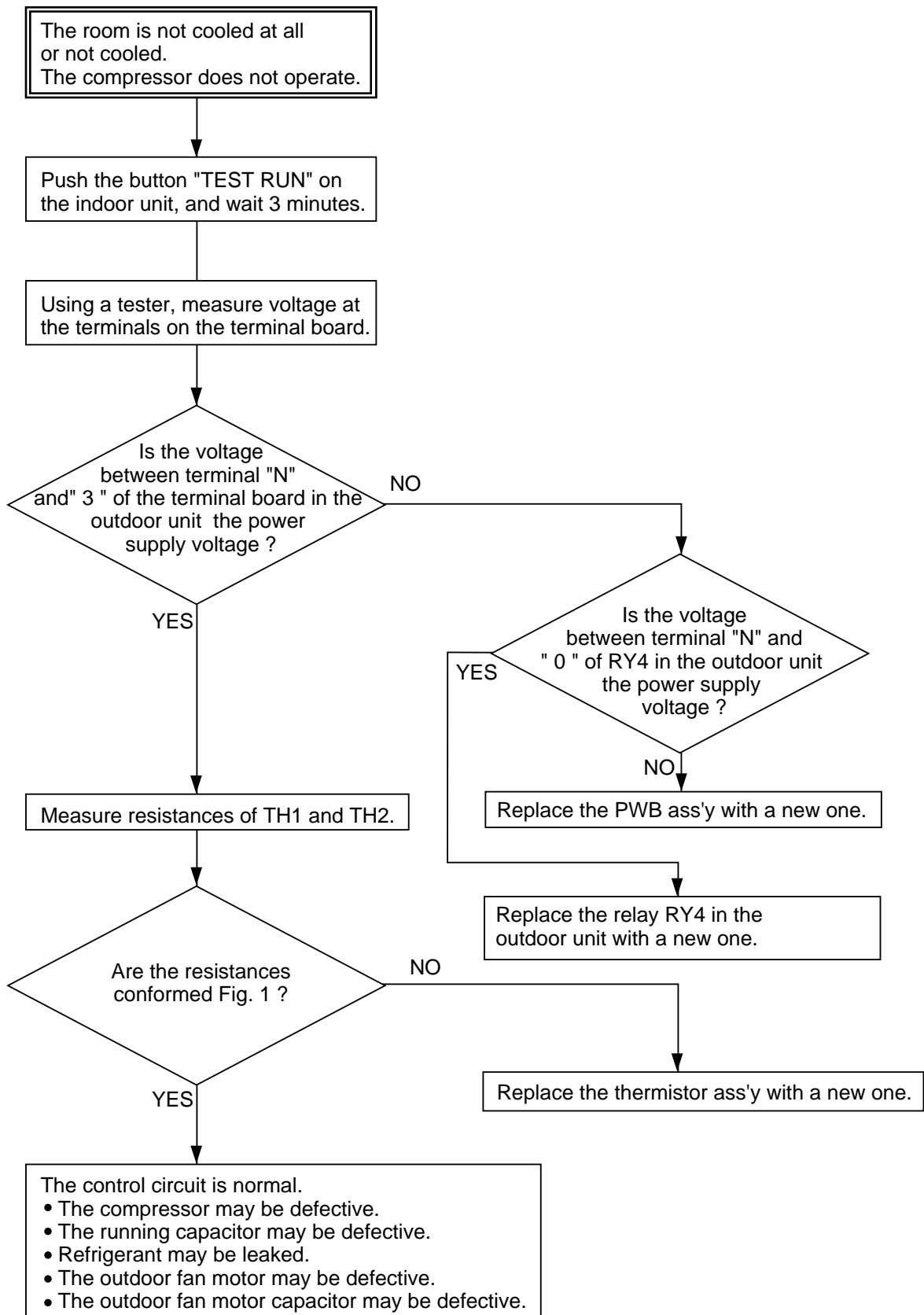


Fig. 1

For AH-A249E/AU-A249E



REFRIGERATION CYCLE

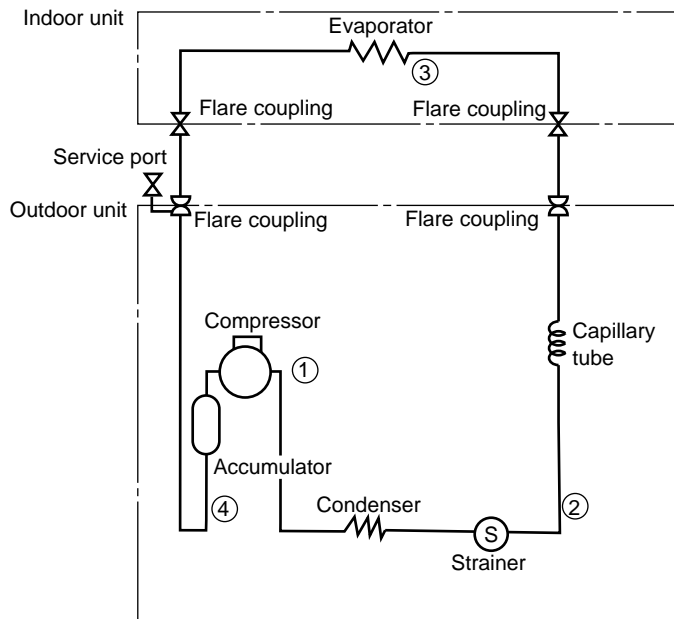
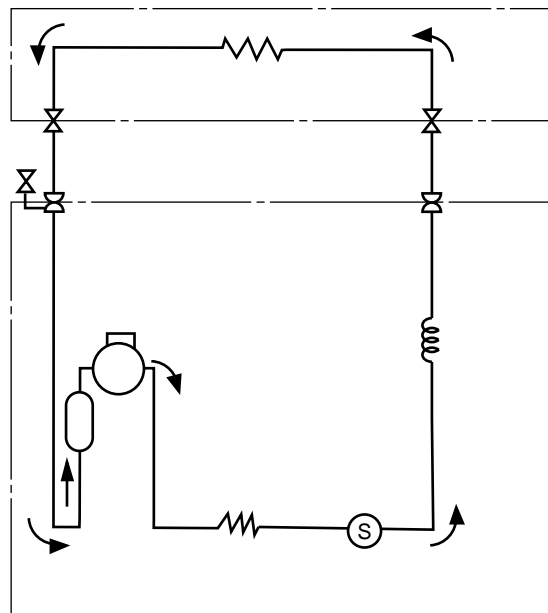


Figure R-1. Refrigeration Cycle



At Cooling

Figure R-2. Flow of Refrigerant

Cycle temperature and service port pressure

ISO Cooling Condition
(at 220V refrigerant pipes length 5.0 m)

| Model | AH-A189E | AH-A249E |
|-----------------------|----------|----------|
| NO. Condition | Cooling | Cooling |
| ① | 91°C | 88°C |
| ② | 39°C | 43°C |
| ③ | 14°C | 11°C |
| ④ | 7°C | 2°C |
| Service port pressure | 0.47MPa | 0.44MPa |

ISO Cooling condition

| | Indoor side | | Outdoor side | |
|---------|------------------|-----------------------|------------------|-----------------------|
| | Temperature (°C) | Relative humidity (%) | Temperature (°C) | Relative humidity (%) |
| Cooling | 27 | 47 | 35 | 40 |

Dimension of Capillary tube

AH-A189E

| | O.D. | I.D. | L |
|----------------|-------|-------|-----|
| Capillary tube | ø 3.2 | ø 1.9 | 600 |

AH-A249E

| | O.D. | I.D. | L |
|----------------|-------|-------|-----|
| Capillary tube | ø 3.5 | ø 2.2 | 600 |

PERFORMANCE CURVES

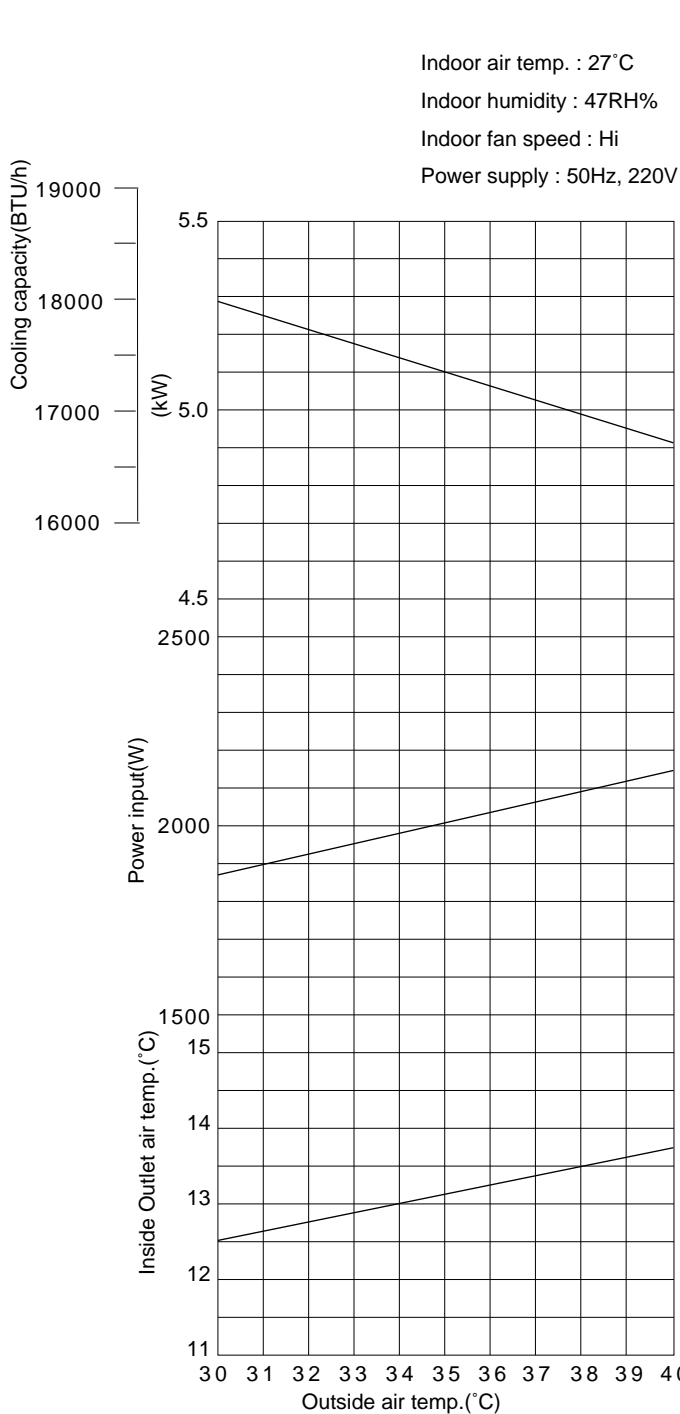


Figure P-1. At Cooling for AH-A189E

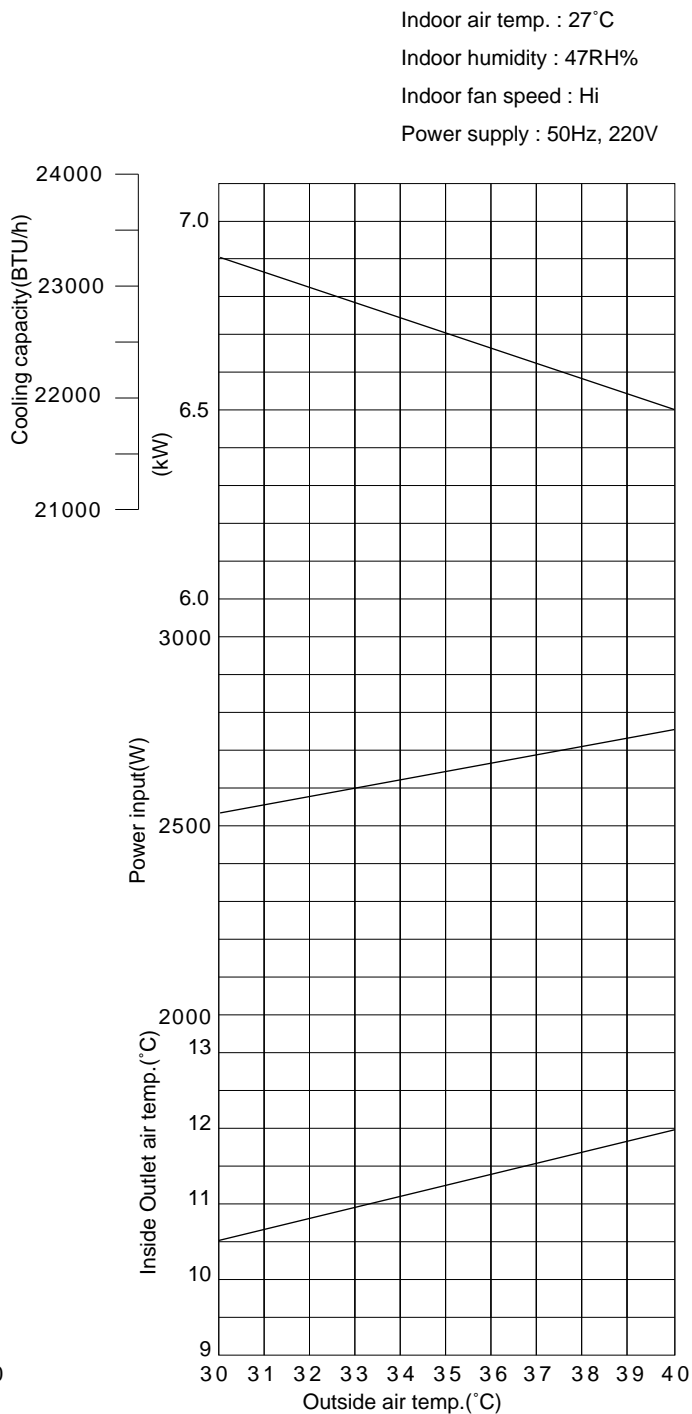


Figure P-2. At Cooling for AH-A249E

REFRIGERANT PIPE INSTALLATION WORKS

Refrigerant pipe length and level difference between the indoor and outdoor units.

| MODEL | PIPE SIZE | | STANDARD PERMISSIBLE LENGTH | PERMISSIBLE LEVEL DIFFERENCE |
|----------|-----------|--------|-----------------------------|------------------------------|
| | GAS | LIQUID | | |
| AH-A189E | 1/2" | 1/4" | 15m | 10m |
| AH-A249E | 5/8" | 1/4" | 15m | 10m |

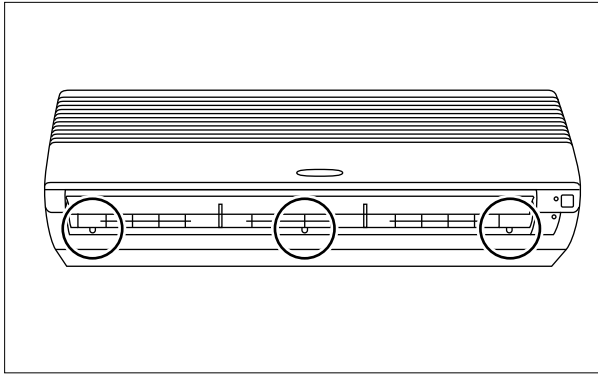
The shorter refrigerant pipe, the higher the machine capability. Keep the pipeline as short as possible.

If actual pipe length exceeds 7.5m, and refrigerant (R-22) 15g per 1m.

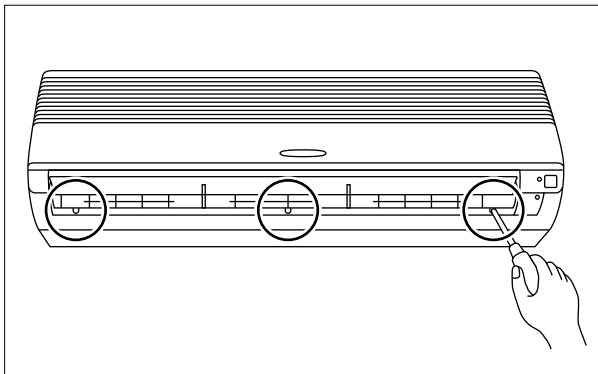
DISASSEMBLING PROCEDURE

FOR INDOOR UNIT MODEL AH-A189E AND AH-A249E

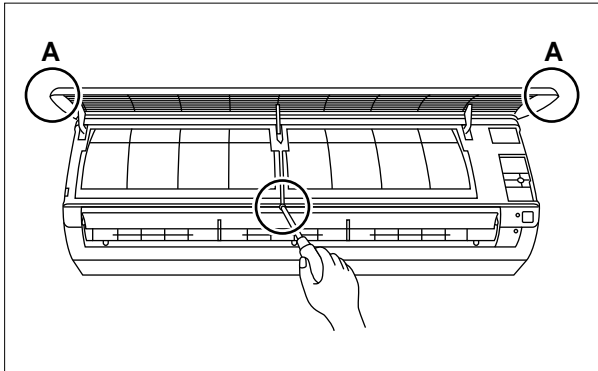
CAUTION: DISCONNECT THE UNIT FROM THE POWER SUPPLY BEFORE ANY SERVICING



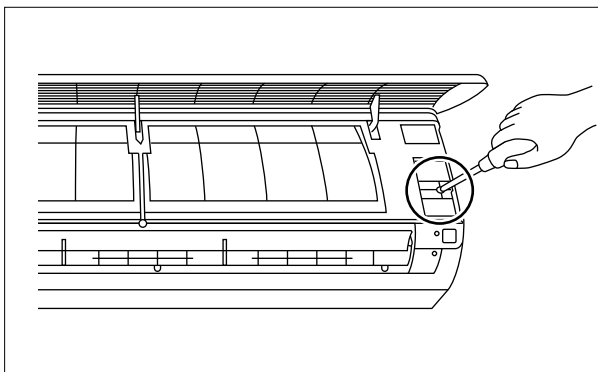
1. Remove the 3 screw covers in the front panel.



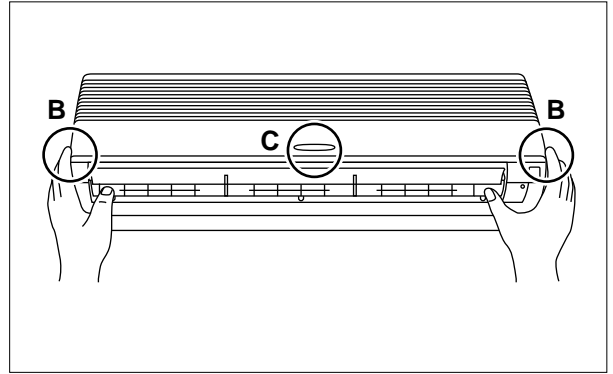
2. Remove 3 fixed screws.



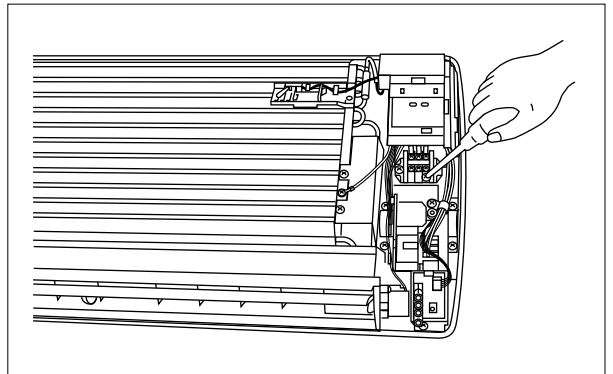
3. Pull the open panel at A toward you.
Remove a fixed screw.



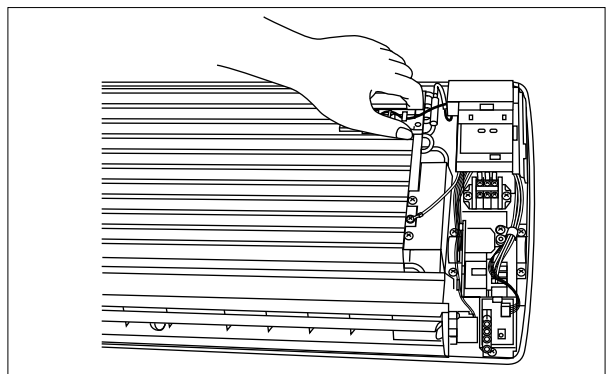
4. Loosen a cord clamp screw and take out the cord clamp.



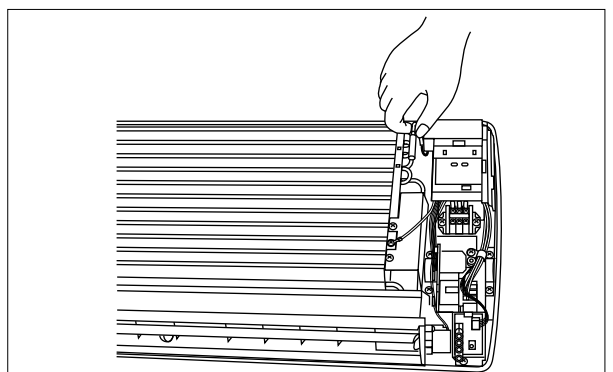
5. Close the open panel softly, and then press B and C of it securely.
Remove the front panel assembly as to lift up.



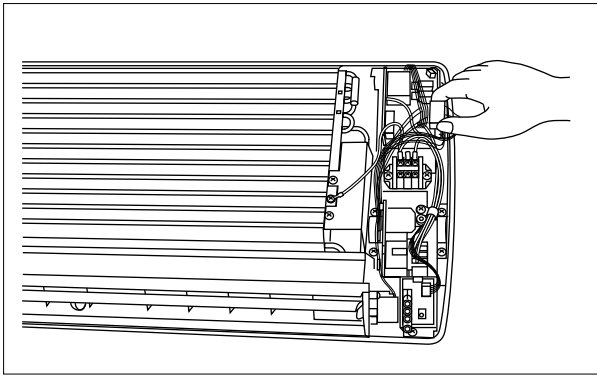
6. Loosen 3 screws on the terminal board and take out the unit-to-unit cord from it.



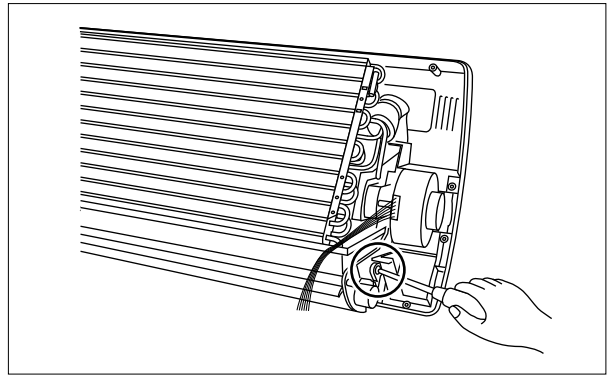
7. Take out the thermistor holder from evaporator.



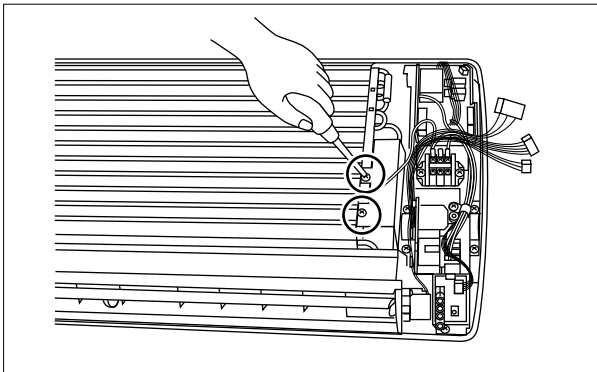
8. Take out the thermistor from evaporator.



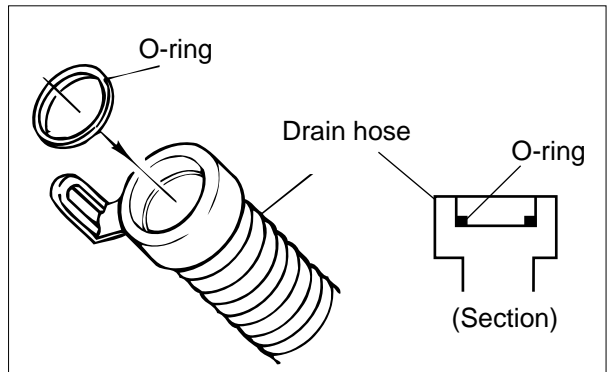
9. Disconnect fan motor connectors.



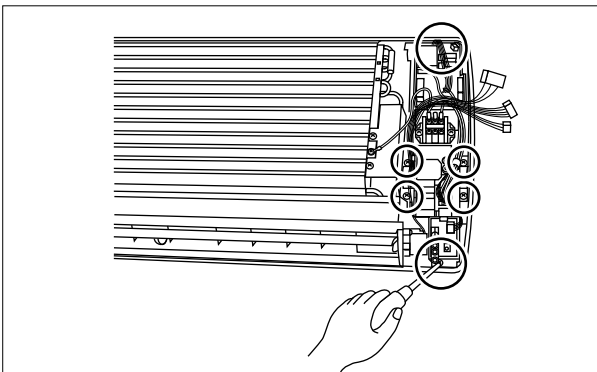
13. Loose a screw fixing the drain hose.



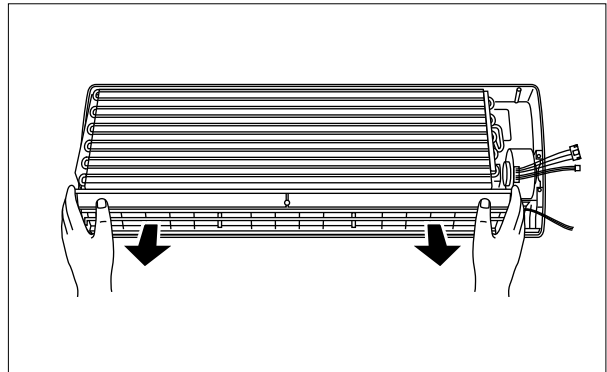
10. Loose 2 screws for a pipe cover and take out the pipe cover.



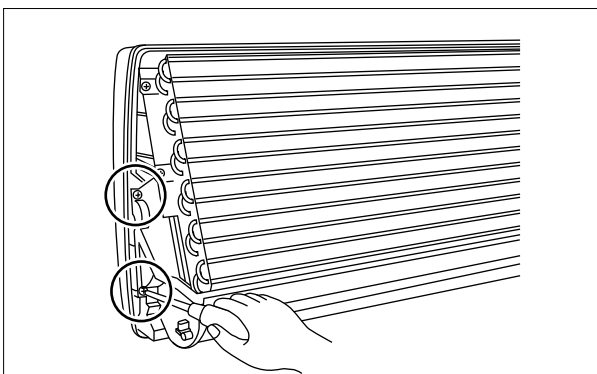
14. When assembling, make sure that O ring is set to drain hose.



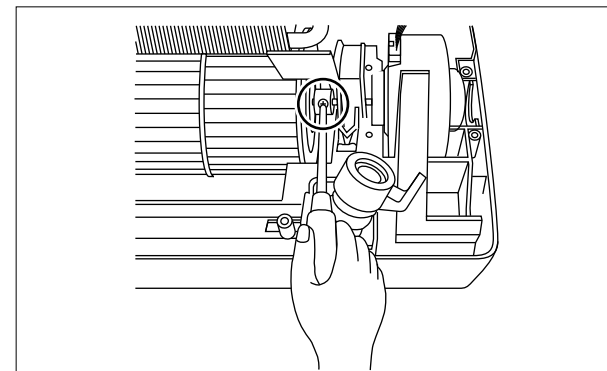
11. Loose 6 screws fixing the control box and take out the control ass'y.



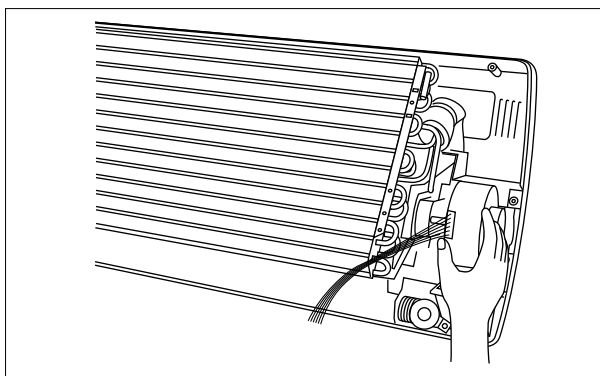
15. Take out the drain pan ass'y.



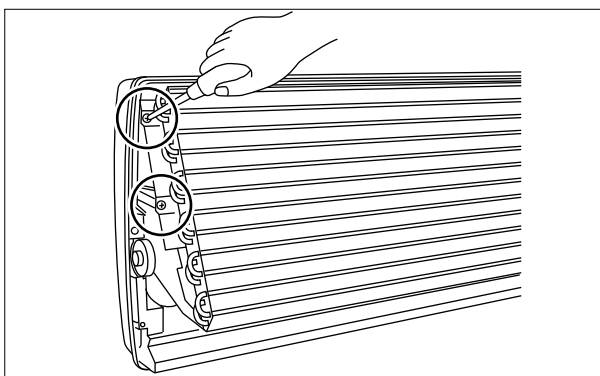
12. Loose 2 screws fixing drain pan ass'y. (Left side)



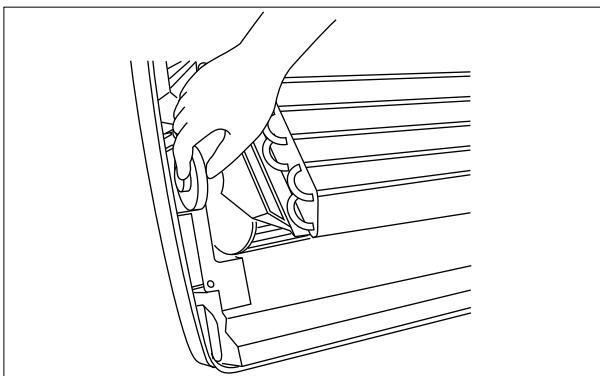
16. Loose a screw fixing the cross flow fan to motor.



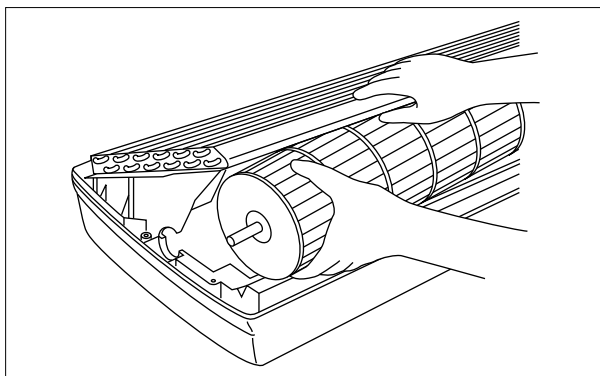
17. Slide the cross fan leftward to depart from the motor shaft and take out the fan motor.



18. Loose 2 screws fixing the evaporator.



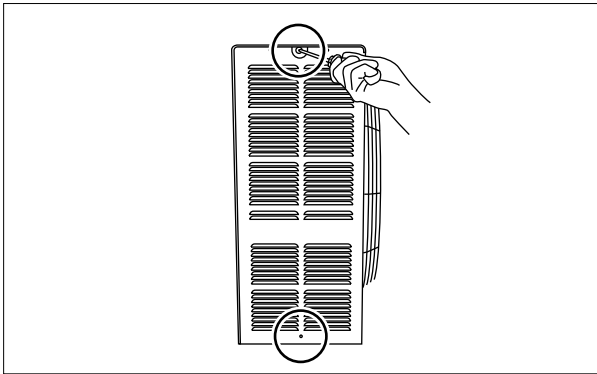
19. Take out the fan bearing ass'y.



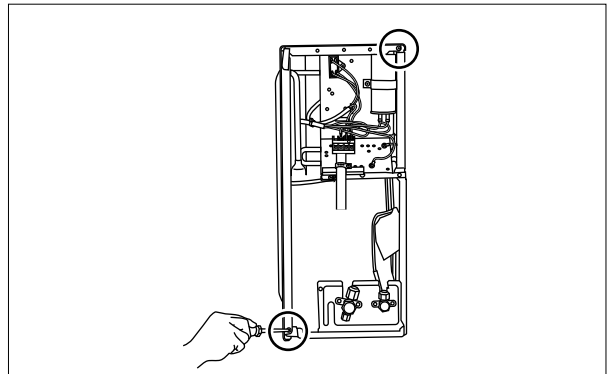
20. Take out the cross flow fan while slightly lifting the evaporator.

FOR OUTDOOR UNIT MODEL AU-A189E

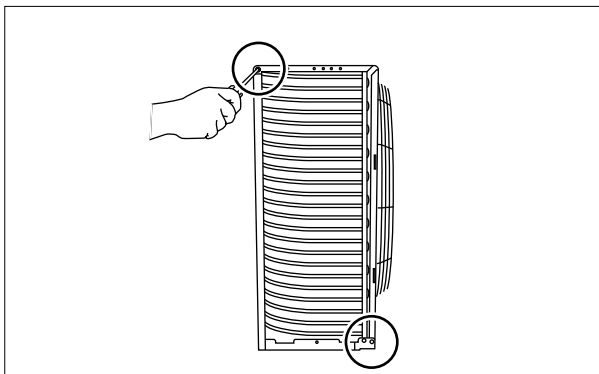
DISASSEMBLING PROCEDURE OF THE CONTROL BOX



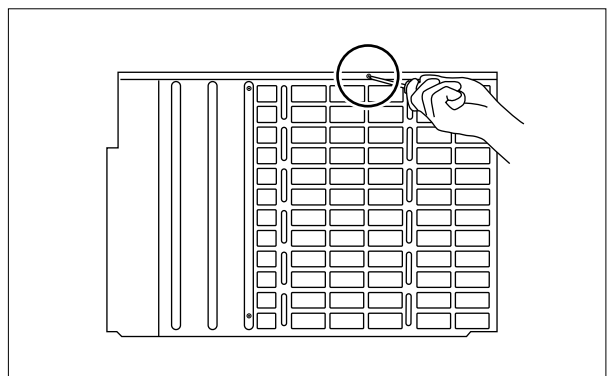
1. Loose 2 screws fixing the left side cover.



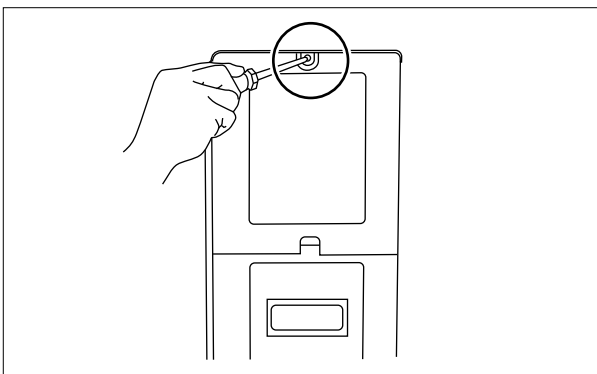
5. Loose 2 screws fixing the cabinet.



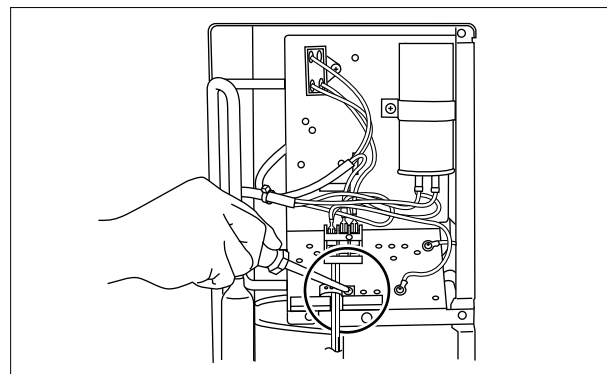
2. Loose 2 screws fixing the cabinet.



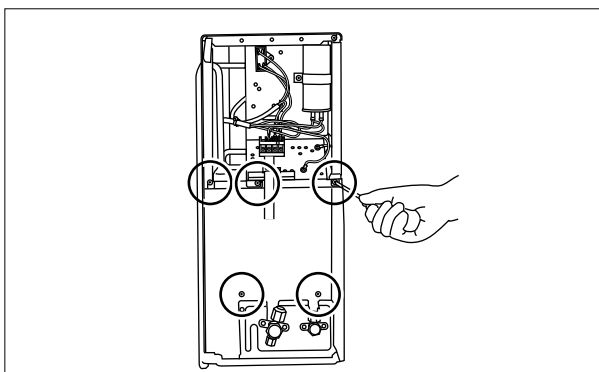
6. Loose a screw fixing the cabinet.



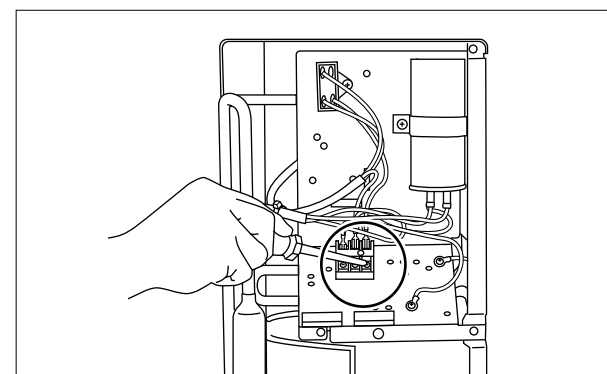
3. Loose a screw fixing the control cover.



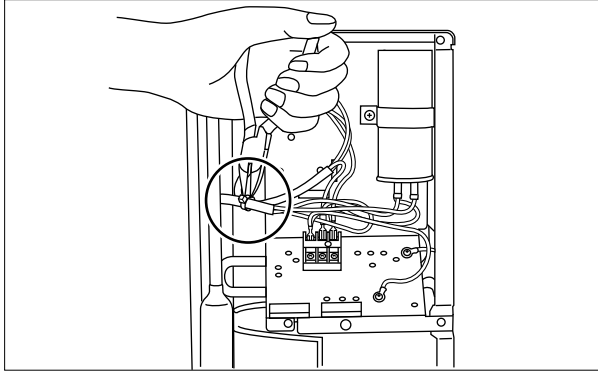
7. Loose a screw fixing the cord clamp.



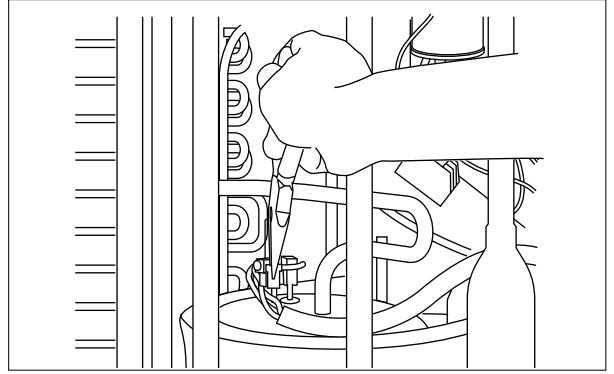
4. Loose 5 screws fixing the right side cover.



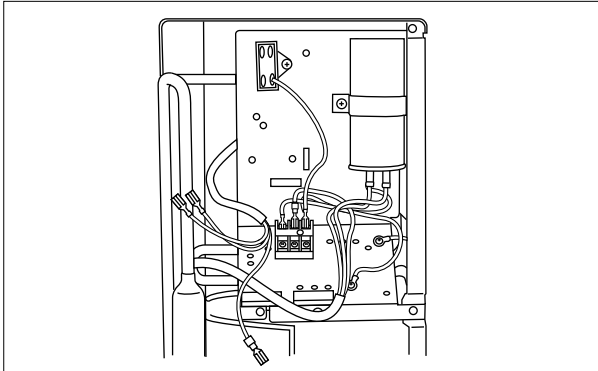
8. Remove the unit-to-unit cord.



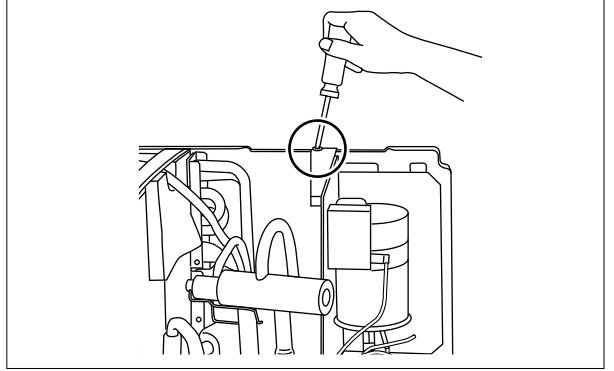
9. Cut nylon band.



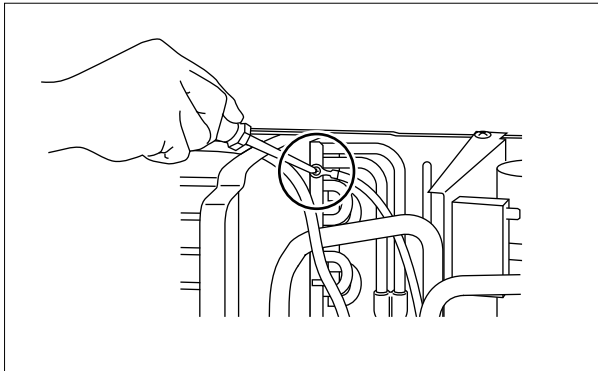
13. Remove 3 terminals.



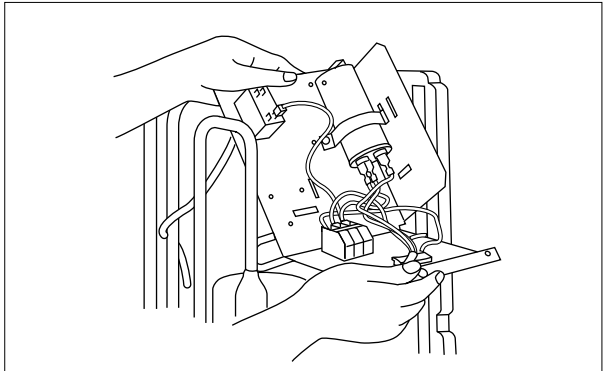
10. Remove 3 terminals.



14. Loose a screw fixing the control box.

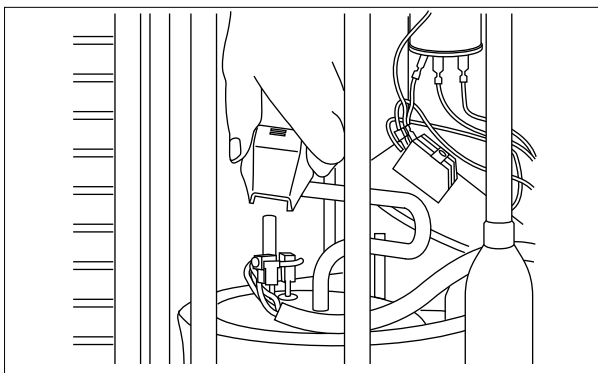


11. Loose the earth screw.

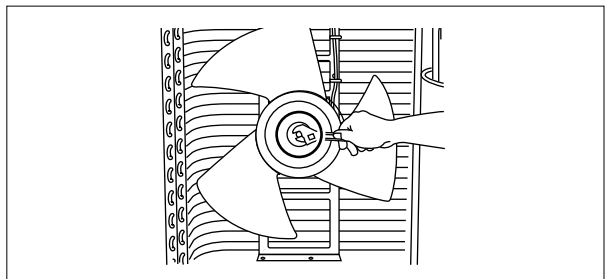


15. Take out the control box.

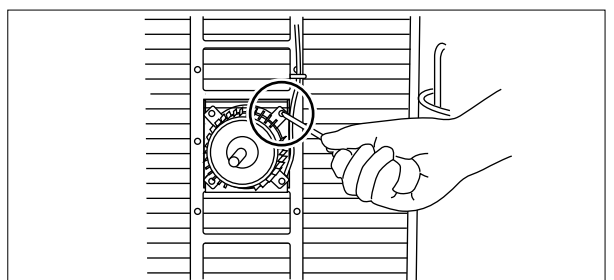
DISASSEMBLING PROCEDURE OF THE FAN



12. Remove the terminal cover.



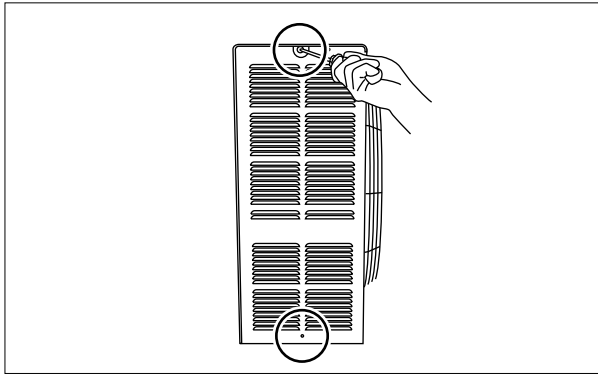
1. Loose the fan nut and fan can take out.



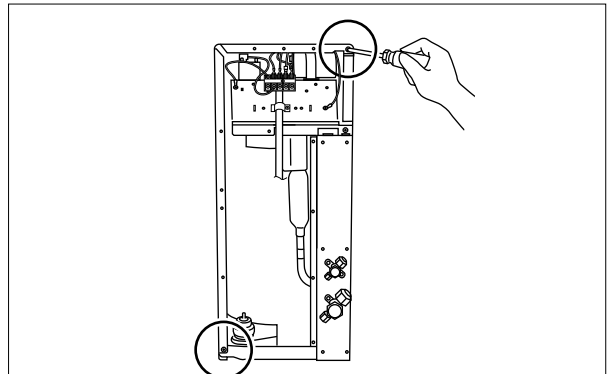
2. Fan motor is secured by 4 screws.

FOR OUTDOOR UNIT MODEL AU-A249E

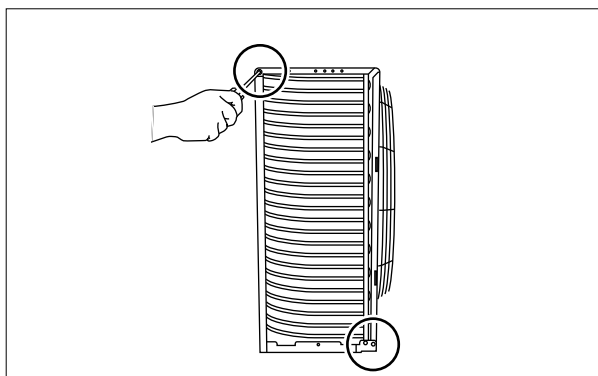
DISASSEMBLING PROCEDURE OF THE CONTROL BOX



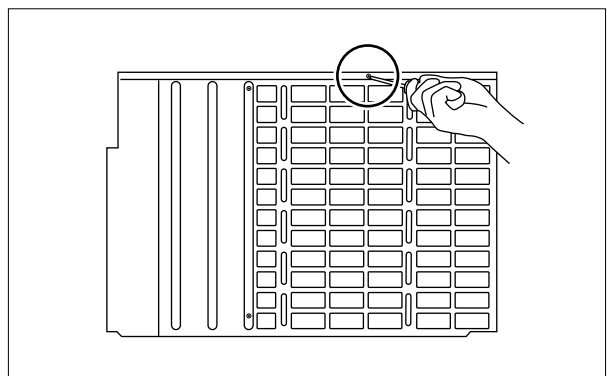
1. Loose 2 screws fixing the left side cover.



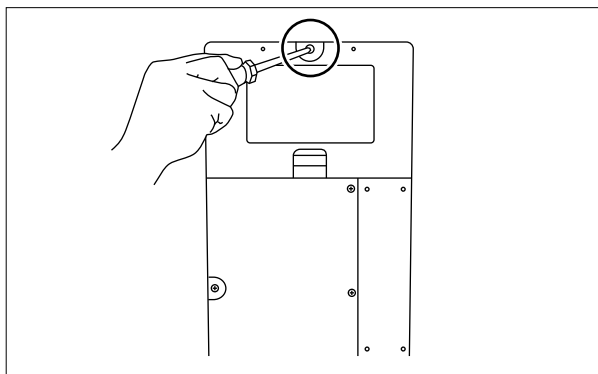
5. Loose 2 screws fixing the cabinet.



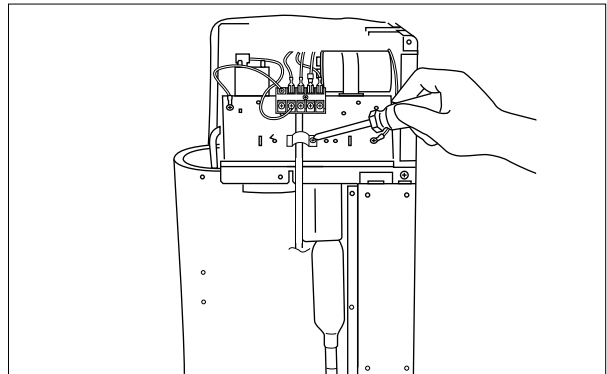
2. Loose 2 screws fixing the cabinet.



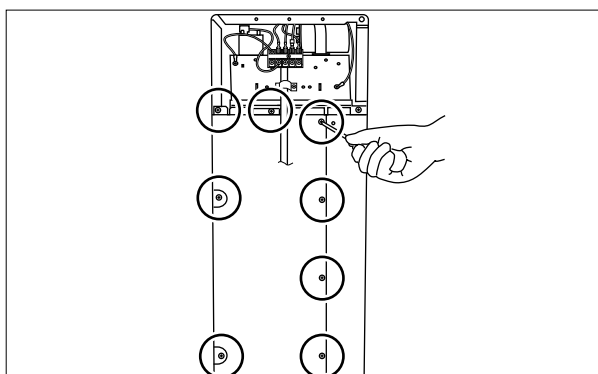
6. Loose a screw fixing the cabinet.



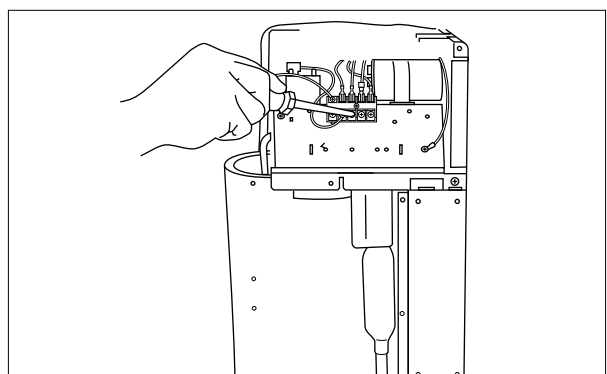
3. Loose a screw fixing the control cover.



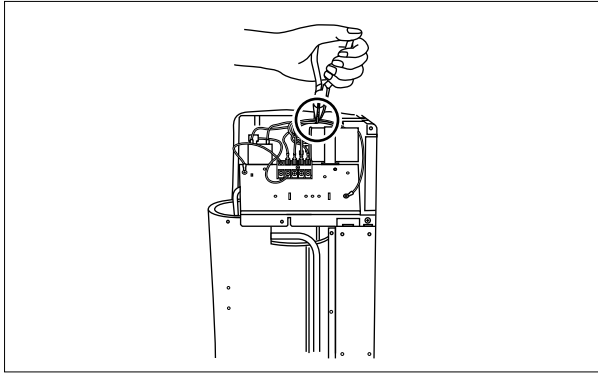
7. Loose a screw fixing the cord clamp.



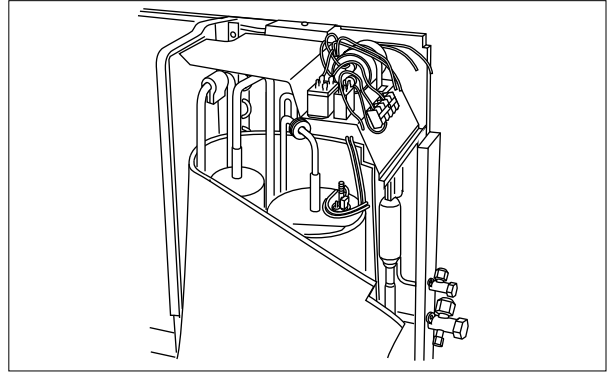
4. Loose 5 screws fixing the right side cover.



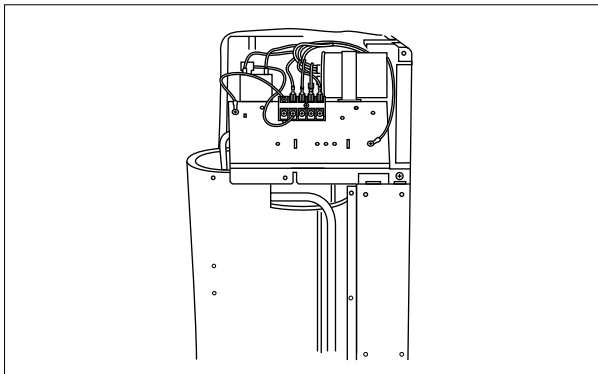
8. Remove the unit-to-unit cord.



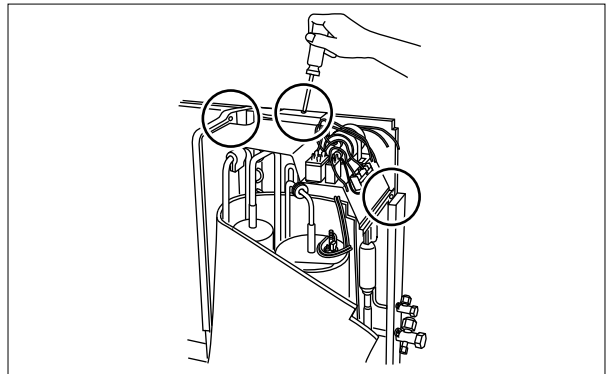
9. Cut nylon band.



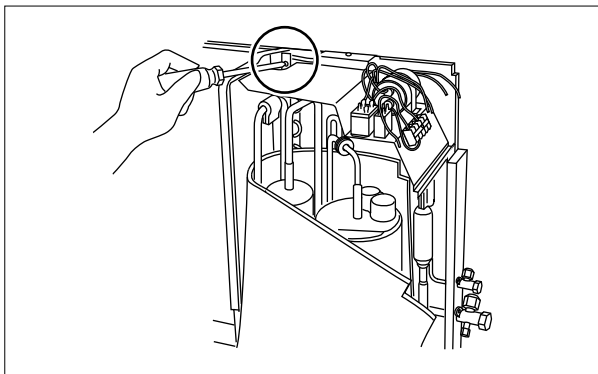
13. Remove 3 terminals.



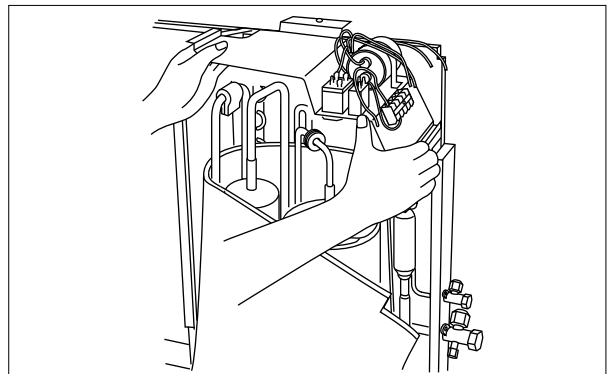
10. Remove 3 terminals.



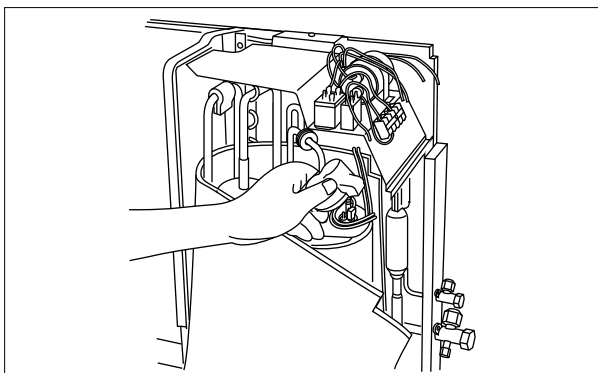
14. Loose 3 screws fixing the control box.



11. Loose the earth screw.

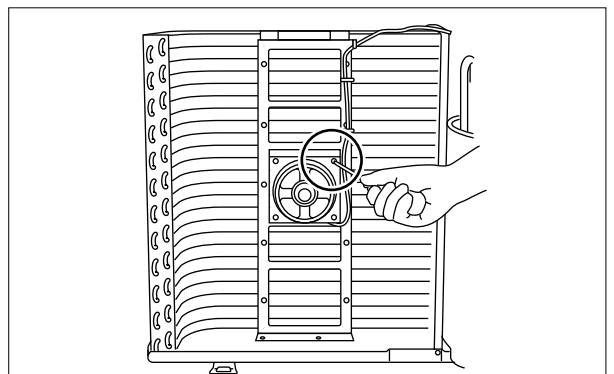


15. Take out the control box.



12. Remove the terminal cover.

DISASSEMBLING PROCEDURE OF THE FAN



1. Loose the fan nut and fan can take out.
2. Fan motor is secured by 4 screws.

REPLACEMENT PARTS LIST [AH-A189E/A249E]

| REF. NO. | PART NO. | DESCRIPTION | Q'TY | CODE |
|-------------------------------|---------------|---------------------------------|------|------|
| CABINET AND UNIT PARTS | | | | |
| 1- 1 | CMOTLA448JBE0 | Fan motor | 1 | BP |
| 1- 2 | NFANCA054JBE0 | Cross flow fan | 1 | BF |
| 1- 3 | CSRA-A449JBK0 | Drain pan assembly | 4 | BP |
| 1- 4 | MJNTPA054JBFB | Louver link | 4 | AC |
| 1- 5 | MLOV-A169JBFB | Vertical louver A | 12 | AC |
| 1- 6 | MLOV-A170JBFB | Vertical louver B | 4 | AC |
| 1- 7 | MLOV-A168JBFC | Horizontal louver | 1 | AS |
| 1- 8 | PHOS-A007JBE0 | Drain hose | 1 | AN |
| 1- 9 | PPACGA004JBE0 | O ring | 1 | AB |
| 1-10 | RMOT-A057JBE0 | Louver motor | 1 | AY |
| 1-11 | PGUMSA197JBE0 | Damper rubber [AH-A189E] | 1 | AN |
| 1-11 | PGUMSA195JBE0 | Damper rubber [AH-A249E] | 1 | AE |
| 1-12 | LHLD-A092JBFB | Louver holder | 3 | AC |
| 1-13 | NBRG-A026JBFA | Louver bushing | 1 | AC |
| 1-14 | CPNL-A311JBK0 | Open panel assembly | 1 | BB |
| 1-15 | CHLD-A067JBK0 | Bearing assembly | 1 | AL |
| 1-16 | PSEL-A700JBFA | Top duct insulator | 1 | AL |
| 1-17 | LHLD-A161JBFB | Pipe holder | 1 | AD |
| 1-18 | PGUMMA111JBE0 | Fan motor insulator | 2 | AF |
| 1-19 | DCHS-A359JBK0 | Cabinet assembly | 1 | BF |
| 1-20 | DWAK-A781JBK0 | Front panel assembly | 1 | BF |
| 1-21 | PFILMA081JBEB | Air filter | 2 | AQ |
| 1-22 | HDEC-B025JBFA | Display cover | 1 | AL |
| 1-23 | HBDG-A059JBFA | Badge | 1 | AF |
| 1-24 | HPNL-A148JBFB | Open panel | 1 | AZ |
| 1-25 | MARMPA006JBFA | Open arm L | 1 | AC |
| 1-26 | MARMPA007JBFA | Open arm R | 1 | AC |
| 1-27 | GWAK-A196JBFC | Front panel | 1 | BA |
| 1-28 | LHLD-A274JBE0 | Panel catch | 3 | AD |
| 1-29 | MARMPA008JBFA | Arm L | 1 | AC |
| 1-30 | MARMPA009JBFA | Arm R | 1 | AC |
| 1-31 | PCOV-A259JBE0 | Drain cover | 1 | AD |
| 1-32 | TSPC-D016JBRA | Name label [AH-A189E] | 1 | AD |
| 1-32 | TSPC-D047JBRA | Name label [AH-A249E] | 1 | AD |
| 1-33 | PSEL-B891JBE0 | Aluminum tape | 1 | AD |
| 1-34 | PSEL-B892JBE0 | Aluminum tape | 1 | AC |
| 1-35 | PSEL-B893JBE0 | Aluminum tape | 1 | AD |
| 1-36 | PSEL-B894JBE0 | Aluminum tape | 1 | AB |
| 1-37 | PSHE-A126JBE0 | Evaporator seal [AH-A189E only] | 1 | AG |
| 1-38 | LSPR-A007JBE0 | Sheet spring [AH-A189E only] | 2 | AD |

CONTROL BOX PARTS

| | | | | |
|------|---------------|-------------------------------|---|----|
| 2- 1 | DSGY-A882JBK0 | Display unit | 1 | AS |
| 2- 2 | DPWBFA016JBK0 | Switch board unit | 1 | AH |
| 2- 3 | PSEL-B890JBE0 | Box sheet | 1 | AD |
| 2- 4 | QTAN-A154JBE0 | Terminal board [AH-A189E] | 1 | AN |
| 2- 4 | QTAN-A308JBE0 | Terminal board [AH-A249E] | 1 | AT |
| 2- 5 | QTAN-A152JBE0 | Terminal board | 1 | AN |
| 2- 6 | DPWBFA158JBK0 | Control board unit [AH-A189E] | 1 | BR |
| 2- 6 | DPWBFA163JBK0 | Control board unit [AH-A249E] | 1 | BR |
| 2- 7 | RRLYJA032JBE0 | Relay [AH-A189E] | 1 | AU |
| 2- 8 | RRLYJA059JBE0 | Relay [AH-A249E] | 1 | AN |
| 2- 9 | RC-HZA230JBE0 | Fan motor capacitor | 1 | AU |
| 2-10 | RTHM-A295JBE0 | Thermistor | 1 | AQ |
| 2-11 | LHLD-A190JBFB | Thermistor holder | 1 | AG |
| 2-12 | DBOX-A025JBK0 | Control box ass'y | 1 | AP |
| 2-13 | HPNLCA554JBFB | Control cover | 1 | AE |
| 2-14 | HPNLCA555JBFA | Control panel | 1 | AG |
| 2-15 | LHLD-A141JBFA | Cord holder | 1 | AC |
| 2-16 | PCOV-A265JBFB | Terminal cover | 1 | AH |
| 2-17 | TLABCB259JBR0 | Wiring diagram [AH-A189E] | 1 | AD |
| 2-17 | TLABCB264JBR0 | Wiring diagram [AH-A249E] | 1 | AD |
| 2-18 | RH-IXA519JBE0 | Microcomputer(IC1) | 1 | AX |
| 2-19 | RH-IZA149JBE0 | Integrated circuit(IC2) | 1 | AF |
| 2-20 | RIC--A022BDE0 | Integrated circuit(IC3) | 1 | AE |
| 2-21 | RIC--A025BDE0 | Integrated circuit(IC4) | 1 | AE |
| 2-22 | RH-IZA140JBE0 | Integrated circuit(IC5) | 1 | BA |
| 2-23 | RH-IZA337DRE0 | Integrated circuit(IC6) | 1 | AK |
| 2-24 | RTRN-A181JBE0 | Current transformer(CT) | 1 | AN |
| 2-25 | RH-VZA025JBE0 | Varistor(NR) | 1 | AD |
| 2-26 | VHRS201D01/-6 | SSR | 1 | AK |
| 2-27 | RTRN-A183JBE0 | Transformer | 1 | AX |
| 2-28 | RFIL-A095JBE0 | Filter coil(L) | 1 | AT |

| REF. NO. | PART NO. | DESCRIPTION | Q'TY | CODE |
|----------|---------------|-----------------------------------|------|------|
| 2-29 | RH-VZA020JBE0 | Varistor(CNR4) [AH-A189E] | 1 | AE |
| 2-30 | RH-VZA020JBE0 | Varistor(CNR3,4) [AH-A249E] | 2 | AE |
| 2-31 | RC-QZA096JBE0 | Capacitor(C1) | 1 | AE |
| 2-32 | QACC-A158JBE0 | Power supply cord [AH-A189E only] | 1 | AT |

CYCLE PARTS

| | | | | |
|------|---------------|--------------------------------|---|----|
| 3- 1 | CPIPCA327JBK0 | Pipe assembly [AH-A189E] | 1 | BL |
| 3- 1 | CPIPCA310JBK0 | Pipe assembly [AH-A249E] | 1 | BN |
| 3- 2 | PEVA-A258JBK0 | Evaporator assembly [AH-A189E] | 1 | CA |
| 3- 2 | PEVA-A257JBK0 | Evaporator assembly [AH-A249E] | 1 | CD |

ACCESSORY PARTS

| | | | | |
|------|---------------|---|---|----|
| 4- 1 | LX-NZ0247JBE0 | Special nut(fixing Mounting plate) | 7 | AB |
| 4- 2 | XTTSD45P30000 | Tapping screw(Screw for Wall plug) | 6 | AA |
| 4- 3 | CRMC-A490JBE0 | Wireless remote controller | 1 | BG |
| 4- 4 | LX-BZA106JBE0 | Special screw(hanging the wireless remote controller) | 1 | AD |
| 4- 5 | TINS-A572JBR0 | Installation manual(English etc.) | 1 | AD |
| 4- 5 | TINS-A573JBR0 | Installation manual(Italian etc.) | 1 | AD |
| 4- 6 | TINSEA229JBR0 | Operation manual | 1 | AR |
| 4- 7 | PPLTNA029JBW0 | Mounting angle | 1 | AS |
| 4- 8 | LHLD-A277JBF0 | Tube holder | 2 | AD |
| 4- 9 | FCOV-A013JBFA | Screw cover | 3 | AB |

SCREWS AND RING

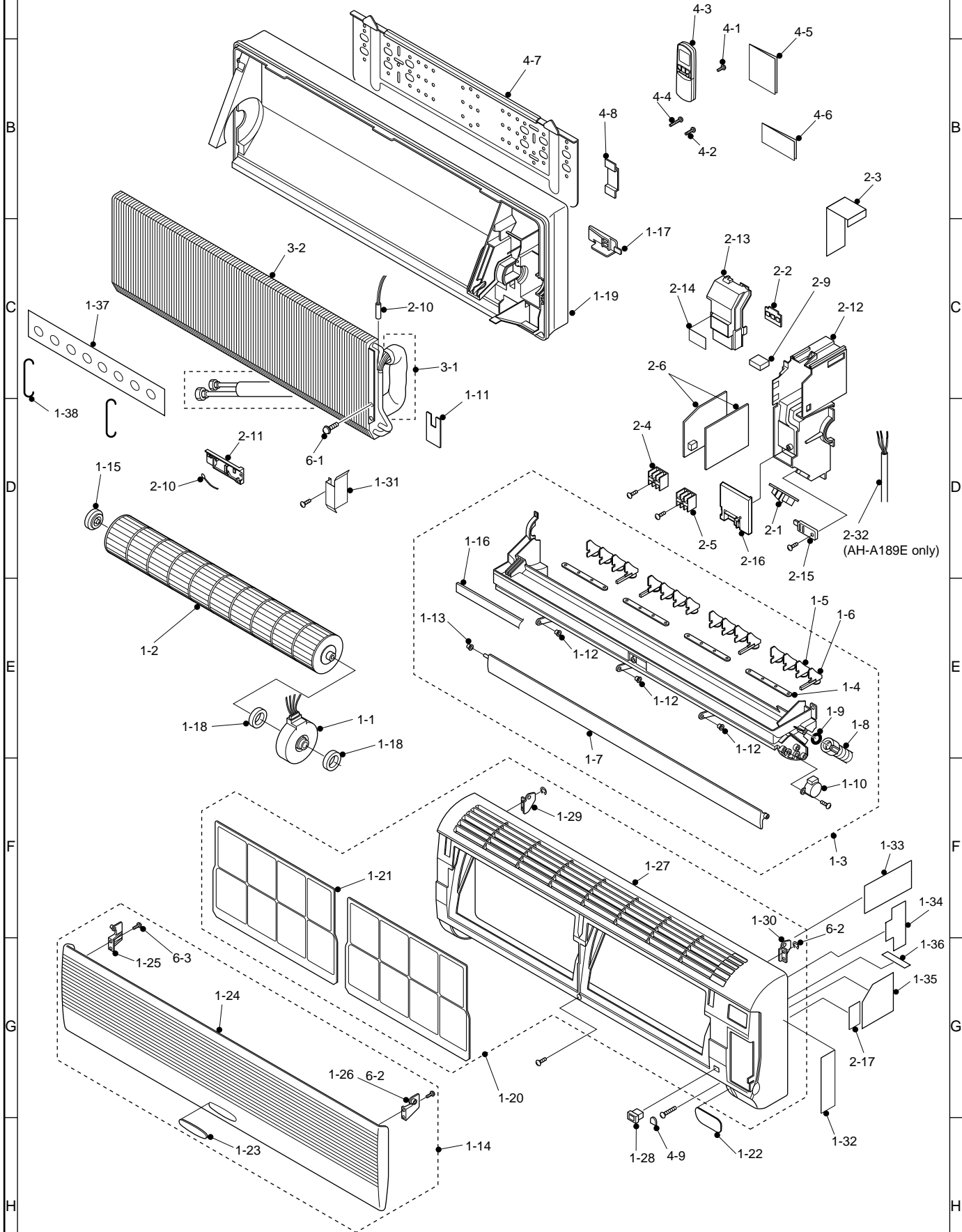
| | | | | |
|------|---------------|-------------------|---|----|
| 6- 1 | LX-BZA075JBE0 | Special screw | 1 | AA |
| 6- 2 | XREUW50-06000 | E-ring | 2 | AA |
| 6- 3 | XZPSD40P14000 | Special tap screw | 4 | AA |
| 6- 4 | XTTSD40P14000 | Tapping screw | 4 | AA |

HOW TO ORDER REPLACEMENT PARTS

To have your order filled promptly and correctly, please furnish the following information.

- | | |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. NO. |
| 3. PART NO. | 4. DESCRIPTION |

INDOOR UNIT AH-A189E/A249E



REPLACEMENT PARTS LIST [AU-A189E/A249E]

| REF. NO. | PART NO. | DESCRIPTION | Q'TY | CODE |
|-------------------------------|---------------|-----------------------------------|------|------|
| CABINET AND UNIT PARTS | | | | |
| 1- 1 | LSUB-A010JBPO | Motor stay sub angle [AU-A249E] | 2 | AG |
| 1- 2 | CMOTLA797JBE0 | Fan motor [AU-A189E] | 1 | BT |
| 1- 2 | CMOTLA590JBE0 | Fan motor [AU-A249E] | 1 | BU |
| 1- 3 | NFANPA037JBFA | Propeller fan | 1 | AZ |
| 1- 4 | LANGKA045JBPO | Motor stay angle [AU-A189E] | 1 | AU |
| 1- 4 | LANGKA043JBPO | Motor stay angle [AU-A249E] | 1 | AV |
| 1- 5 | PSKR-A101JBPO | Bulkhead | 1 | AQ |
| 1- 6 | GPLTMA046JBTA | Right side cover [AU-A189E] | 1 | AW |
| 1- 6 | GPLTMA051JBTA | Right side cover [AU-A249E] | 1 | AW |
| 1- 7 | CFTA-A226JBK0 | Control cover assembly [AU-A189E] | 1 | AS |
| 1- 7 | CFTA-A232JBK0 | Control cover assembly [AU-A249E] | 1 | AV |
| 1- 8 | GPLTMA047JBTA | Left side cover | 1 | AR |
| 1- 9 | GCAB-A110JBTA | Cabinet [AU-A189E] | 1 | BD |
| 1- 9 | GCAB-A124JBTA | Cabinet [AU-A249E] | 1 | BD |
| 1-10 | GGADFA028JBEA | Fan guard | 1 | AZ |
| 1-11 | PSEL-A792JBE0 | Bulkhead seal | 1 | AD |
| 1-12 | PSPF-A706JBE0 | Compressor cover [AU-A189E] | 1 | AZ |
| 1-12 | PSPF-A716JBE0 | Compressor cover [AU-A249E] | 1 | BB |
| 1-13 | PSEL-0617JBE0 | Cabinet seal | 1 | AA |
| 1-14 | TSPC-C995JBR0 | Name badge [AU-A189E] | 1 | AE |
| 1-14 | TSPC-D024JBR0 | Name label [AU-A249E] | 1 | AD |
| 1-15 | TLABBA100JBRA | SHARP badge | 1 | AE |
| 1-16 | CCHS-A471JBTA | Base pan assembly [AU-A189E] | 1 | BM |
| 1-16 | CCHS-A672JBTA | Base pan assembly [AU-A249E] | 1 | BR |
| 1-17 | PSEL-0625JBE0 | Angle seal | 3 | AA |
| 1-18 | PSEL-B721JBE0 | Insulator | 1 | AM |
| 1-19 | LBSHCA022JBF0 | Bushing | 1 | AE |

CONTROL BOX PARTS

| | | | | |
|------|---------------|-----------------------------------|---|----|
| 2- 1 | RHOG-A043JBE0 | Overload relay [AU-A189E only] | 1 | AS |
| 2- 2 | PSEL-0619JBE0 | Control box insulator B | 2 | AA |
| 2- 3 | QW-VZC311JBE0 | Compressor cord [AU-A189E] | 1 | AN |
| 2- 3 | QW-VZD498JBE0 | Compressor cord [AU-A249E] | 1 | AU |
| 2- 4 | RC-HZA336JBE0 | Running capacitor [AU-A189E] | 1 | BA |
| 2- 4 | RC-HZA299JBE0 | Running capacitor [AU-A249E] | 1 | BA |
| 2- 5 | RC-HZA220JBE0 | Fan motor capacitor [AU-A189E] | 1 | AQ |
| 2- 5 | RC-HZA285JBE0 | Fan motor capacitor [AU-A249E] | 1 | AW |
| 2- 6 | QTAN-A153JBE0 | Terminal board [AU-A189E] | 1 | AF |
| 2- 6 | QTAN-A145JBE0 | Terminal board [AU-A249E] | 1 | AQ |
| 2- 7 | LHLD-0261JBM0 | Cord clamp | 1 | AB |
| 2- 8 | PBOX-A166JBW0 | Control box [AU-A189E] | 1 | AP |
| 2- 8 | PBOX-A321JBW0 | Control box [AU-A249E] | 1 | AH |
| 2- 9 | LBNDKA077JBW0 | Running capacitor band [AU-A189E] | 1 | AT |
| 2- 9 | LBNDKA060JBW0 | Running capacitor band [AU-A249E] | 1 | AH |
| 2-10 | TLABCA668JBR0 | Wiring diagram [AU-A189E] | 1 | AE |
| 2-10 | TLABCB182JBR0 | Wiring diagram [AU-A249E] | 1 | AD |
| 2-11 | RRLYJA056JBE0 | Relay [AU-A249E only] | 1 | AY |

CYCLE PARTS

| | | | | |
|------|---------------|---------------------------------|---|----|
| 3- 1 | PCMPRA079JBE0 | Compressor [AU-A189E] | 1 | CH |
| 3- 1 | PCMPRA299JBE0 | Compressor [AU-A249E] | 1 | CZ |
| 3- 2 | PCON-A415JBPO | Condenser [AU-A189E] | 1 | CC |
| 3- 2 | PCON-A419JBPO | Condenser [AU-A249E] | 1 | CC |
| 3- 3 | DVLV-A220JBK0 | 2 way valve assembly [AU-A189E] | 1 | AX |
| 3- 3 | DVLV-A369JBK0 | 2 way valve assembly [AU-A249E] | 1 | BC |
| 3- 4 | LX-NZ0133JBE0 | Flare nut | 1 | AE |
| 3- 5 | LX-NZA081JBE0 | Valve cap | 1 | AM |
| 3- 6 | PCAP-A006JBE0 | Bonnet | 1 | AC |
| 3- 7 | DVLV-A221JBK0 | 3 way valve assembly [AU-A189E] | 1 | BC |
| 3- 7 | DVLV-A391JBK0 | 3 way valve assembly [AU-A249E] | 1 | BK |
| 3- 8 | LX-NZ0255JBE0 | Flare nut [AU-A189E] | 1 | AH |
| 3- 8 | LX-NZA017JBE0 | Flare nut [AU-A249E] | 1 | AL |
| 3- 9 | LX-NZA034JBE0 | Service cap [AU-A189E] | 1 | AD |
| 3- 9 | LX-NZA100JBE0 | Service cap [AU-A249E] | 1 | AF |
| 3-10 | PCAP-0045JBE0 | Bonnet [AU-A189E] | 1 | AD |
| 3-10 | PCAP-A002JBE0 | Bonnet [AU-A249E] | 1 | AC |
| 3-11 | PCPY-A285JB10 | Capillary tube [AU-A189E] | 1 | AN |
| 3-11 | PCPY-A681JB10 | Capillary tube [AU-A249E] | 1 | AN |
| 3-12 | PGUMSA184JBE0 | Damper rubber [AU-A189E] | 2 | AH |
| 3-12 | PGUMSA298JBE0 | Damper rubber [AU-A249E] | 1 | AG |
| 3-13 | PSRN-A007JBE0 | Strainer | 1 | AK |
| 3-14 | GLEG-A028JBE0 | Compressor cushion [AU-A189E] | 3 | AF |
| 3-14 | GLEG-A093JBE0 | Compressor cushion [AU-A249E] | 3 | AR |
| 3-15 | MSPR-A012JBE0 | OL spring [AU-A189E only] | 1 | AE |

| REF. NO. | PART NO. | DESCRIPTION | Q'TY | CODE |
|----------|---------------|----------------------------|------|------|
| 3-16 | LX-NZA048JBE0 | Special nut | 3 | AB |
| 3-17 | PSEL-B229JBE0 | Terminal gasket [AU-A249E] | 1 | AG |
| 3-18 | PCOV-0572JBE0 | Terminal cover [AU-A189E] | 1 | AD |
| 3-18 | PCOV-A010JBE0 | Terminal cover [AU-A249E] | 1 | AF |
| 3-19 | LX-NZA037JBE0 | Valve cap [AU-A189E] | 1 | AG |
| 3-19 | LX-NZA099JBE0 | Valve cap [AU-A249E] | 1 | AG |
| 3-20 | LBSHC0067JBE0 | Terminal bushing | 1 | AB |
| 3-21 | LX-NZA008JBE0 | Special nut | 1 | AA |
| 3-22 | PSEL-A150JBE0 | Gasket washer | 1 | AA |
| 3-23 | PMUF-A043JBE0 | Muffler | 1 | AR |

SCREWS, NUT AND BOLT

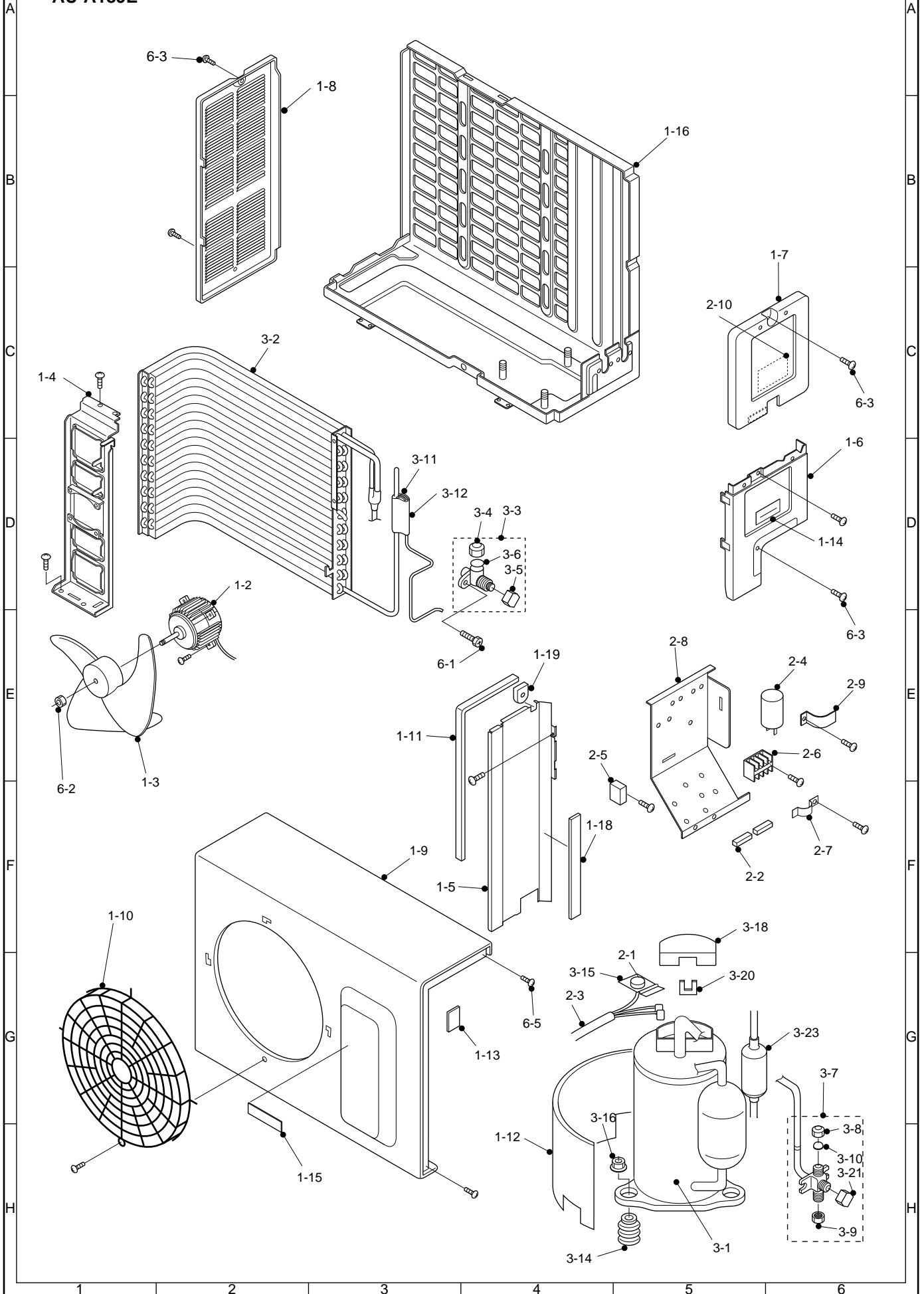
| | | | | |
|------|---------------|---------------|---|----|
| 6- 1 | LX-BZA072JBE0 | Specila screw | 4 | AB |
| 6- 2 | LX-NZ0128JBE0 | Specila nut | 1 | AB |
| 6- 3 | LX-BZA076JBE0 | Specila screw | 9 | AA |
| 6- 4 | LX-BZA075JBE0 | Specila screw | 2 | AA |
| 6- 5 | LX-CZA038WRE0 | Specila screw | 2 | AA |

HOW TO ORDER REPLACEMENT PARTS

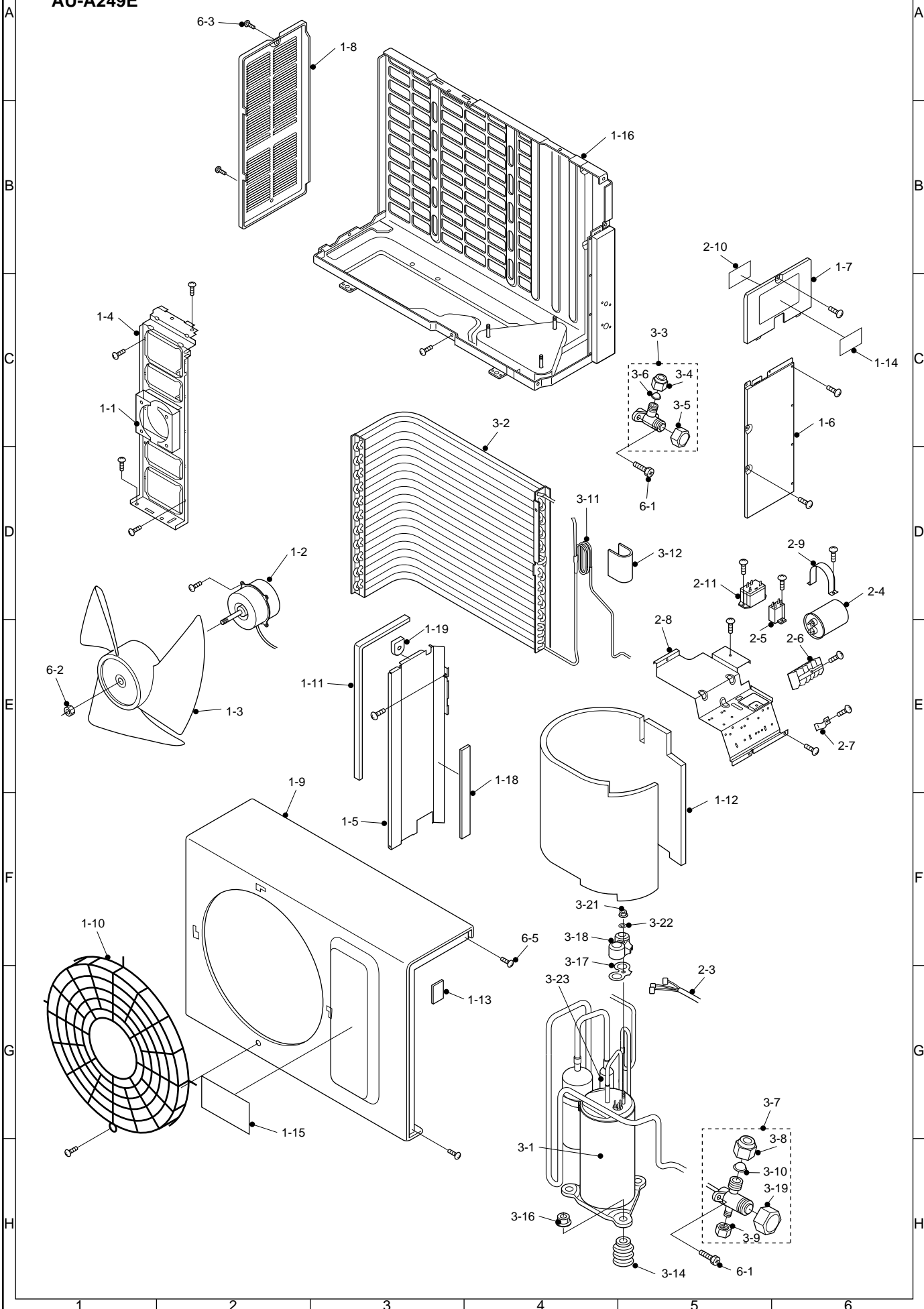
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- | | |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. NO. |
| 3. PART NO. | 4. DESCRIPTION |

**OUTDOOR UNIT
AU-A189E**



OUTDOOR UNIT AU-A249E



SHARP